



STIC Search Report

EIC 1700

STIC Database Tracking Number: 138445

**TO: Amanda Walke
Location: REM 9D64
Art Unit : 1752
December 8, 2004**

Case Serial Number: 10/786794

**From: Les Henderson
Location: EIC 1700
REM 4B28 / 4A30
Phone: 571-272-2538**

Leslie.henderson@uspto.gov

Search Notes

Access DB# 139445

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Amanda Wauke Examiner #: 5663 Date: 12/2/01
Art Unit: 1752 Phone Number 30 272-1331 Serial Number: 10/786794
Mail Box and Bldg/Room Location: PEM 9D64 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Bib Sheet Attached

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for a compd of structure (I). Thank you.

STAFF USE ONLY

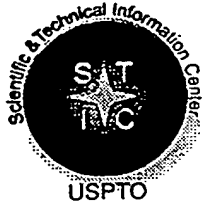
Searcher: LA
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: _____
Date Completed: 12/8/04
Searcher Prep & Review Time: 30
Clerical Prep Time: _____
Online Time: 300

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) 3
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN \$925.28
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



=> d his ful

(FILE 'HOME' ENTERED AT 09:31:09 ON 08 DEC 2004)

FILE 'HCA' ENTERED AT 09:31:46 ON 08 DEC 2004

L1 124 SEA ABB=ON PLU=ON MASKASKY ?/AU
L2 85 SEA ABB=ON PLU=ON SCACCIA ?/AU
L3 21 SEA ABB=ON PLU=ON L1 AND L2
D SCAN
L4 26458 SEA ABB=ON PLU=ON BENZOQUINONE#
L5 0 SEA ABB=ON PLU=ON L4 AND L3

FILE 'REGISTRY' ENTERED AT 09:37:37 ON 08 DEC 2004

E BENZOQUINONE/CN
L6 1 SEA ABB=ON PLU=ON "BENZOQUINONE 6"/CN
D SCAN

FILE 'LREGISTRY' ENTERED AT 09:39:16 ON 08 DEC 2004

L7 STRUCTURE

FILE 'REGISTRY' ENTERED AT 09:41:16 ON 08 DEC 2004

L8 50 SEA SSS SAM L7

FILE 'LREGISTRY' ENTERED AT 09:42:01 ON 08 DEC 2004

L9 STRUCTURE L7

FILE 'REGISTRY' ENTERED AT 09:43:13 ON 08 DEC 2004

L10 50 SEA SSS SAM L9
L11 1 SEA ABB=ON PLU=ON TETRACHLOROBENZOQUINONE/CN
L12 1 SEA ABB=ON PLU=ON 2,6-DIMETHOXY-1,4-BENZOQUINONE/CN
L13 1 SEA ABB=ON PLU=ON 106-51-4/RN
L14 1 SEA ABB=ON PLU=ON 42580-16-5/RN
D SCAN

FILE 'LREGISTRY' ENTERED AT 10:47:07 ON 08 DEC 2004

L15 STRUCTURE L9
D QUE STAT
DIS

FILE 'REGISTRY' ENTERED AT 11:17:44 ON 08 DEC 2004

L16 1 SEA SSS SAM L15
D SCAN
L17 SCREEN 1918
L18 SCREEN 2043
L19 SCR 1943
L20 SCR 2005
L21 50 SEA SSS SAM (L19 AND L20) NOT L17
L22 50 SEA SSS SAM (L19 AND L20) NOT (L17 OR L18)

FILE 'LREGISTRY' ENTERED AT 11:53:18 ON 08 DEC 2004

L23 STRUCTURE L15

FILE 'REGISTRY' ENTERED AT 11:54:05 ON 08 DEC 2004

L24 2 SEA SSS SAM L23
D SCAN
D QUE STAT

FILE 'LREGISTRY' ENTERED AT 11:55:37 ON 08 DEC 2004

L25 STRUCTURE L23

L26 FILE 'REGISTRY' ENTERED AT 11:56:56 ON 08 DEC 2004
 0 SEA SSS SAM L25
 L27 FILE 'LREGISTRY' ENTERED AT 11:57:52 ON 08 DEC 2004
 STRUCTURE L25
 L28 FILE 'REGISTRY' ENTERED AT 12:11:57 ON 08 DEC 2004
 2 SEA SSS SAM L27
 L29 FILE 'LREGISTRY' ENTERED AT 13:12:49 ON 08 DEC 2004
 STRUCTURE L27
 L30 FILE 'REGISTRY' ENTERED AT 13:17:20 ON 08 DEC 2004
 2 SEA SSS SAM L29
 L32 1 SEA SSS SAM L31
 L33 FILE 'LREGISTRY' ENTERED AT 13:22:59 ON 08 DEC 2004
 STRUCTURE L31
 D QUE STAT
 L34 FILE 'REGISTRY' ENTERED AT 13:24:50 ON 08 DEC 2004
 1 SEA SSS SAM L33
 D QUE STAT L34
 D QUE STAT
 L35 FILE 'LREGISTRY' ENTERED AT 13:28:44 ON 08 DEC 2004
 STRUCTURE L33
 L36 FILE 'REGISTRY' ENTERED AT 13:31:54 ON 08 DEC 2004
 1 SEA SSS SAM L35
 L37 SCR 470
 L38 3 SEA SSS SAM L35 AND L37 AND L19 AND L20 NOT L17 NOT L18
 D QUE STAT
 L39 FILE 'LREGISTRY' ENTERED AT 14:29:06 ON 08 DEC 2004
 STRUCTURE L35
 L40 FILE 'REGISTRY' ENTERED AT 14:32:05 ON 08 DEC 2004
 SCR 1833
 L41 SCR 1140
 L42 16 SEA SSS SAM L39 AND (L40 OR L41) AND L37 AND L19 AND L20 NOT
 (L17 OR L18)
 L43 5773 SEA SSS FUL L39 AND (L40 OR L41) AND L37 AND L19 AND L20 NOT
 (L17 OR L18)
 SAV L43 WAL794/A
 L44 FILE 'HCA' ENTERED AT 14:59:31 ON 08 DEC 2004
 24427 SEA ABB=ON PLU=ON L43
 L45 4067 SEA ABB=ON PLU=ON L11
 L46 474 SEA ABB=ON PLU=ON L12
 L47 11723 SEA ABB=ON PLU=ON L13
 L48 4 SEA ABB=ON PLU=ON L14
 L49 13530 SEA ABB=ON PLU=ON THERMOGRAPH? OR THERMOG OR ELECTROTHERMOGRA
 PH? OR PHOTOTHERMOGRAPH? OR (ELECTRO OR PHOTO) (A) (THERMOG OR
 THERMOGRAPH?) OR THERMAL(2A)COPY? OR (IR OR INFRARED#) (2A)COPY?
 L50 86 SEA ABB=ON PLU=ON L49 AND L44
 L51 852 SEA ABB=ON PLU=ON THERM? (2A)TONER#

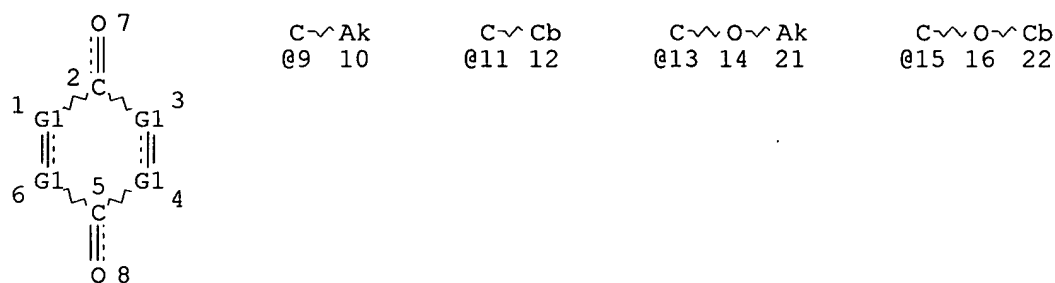
L52	0	SEA ABB=ON	PLU=ON	L51 AND L44
L53	30600	SEA ABB=ON	PLU=ON	TONER#
L54	26	SEA ABB=ON	PLU=ON	L53 AND L44
L55	112	SEA ABB=ON	PLU=ON	L54 OR L50
		D SCAN		L54
L56	208553	SEA ABB=ON	PLU=ON	CYAN OR MAGENTA OR YELLOW
L57	4	SEA ABB=ON	PLU=ON	L50 AND L56
		D SCAN		
L58		QUE ABB=ON	PLU=ON	LAMEL? OR LAMIN? OR MULTILAYER? OR
		MULTICOAT? OR MULTIFILM?		
L59		QUE ABB=ON	PLU=ON	(MULTI OR MULTIPL? OR PLURAL? OR THREE OR
		MANY OR NUMEROUS? OR SEVERAL? OR FEW OR MULTIFOLD? OR MANIFOLD?		
		OR MULTITUD?) (2A) (LAYER? OR COAT? OR FILM?)		
L60		QUE ABB=ON	PLU=ON	THREEPLY? OR THREEPLIES OR THREEPLIED OR
		(THREE OR 3) (2A) (PLY OR PLIES OR PLIED OR PLYING#)		
L61	10	SEA ABB=ON	PLU=ON	L50 AND (L58 OR L59 OR L60)
		D SCAN		
		E IMAGE/CT		
		E IMAGING/CT		
L62	134861	SEA ABB=ON	PLU=ON	IMAGING
L63	23	SEA ABB=ON	PLU=ON	L62 AND L50
		D SCAN		
L64	2546	SEA ABB=ON	PLU=ON	SILVER(2A) (FREE OR NO OR NONE OR ABSENCE)
L65	1	SEA ABB=ON	PLU=ON	L64 AND L50
		D SCAN		
		D SCAN AU		
		D L65 ALL		
L66	410603	SEA ABB=ON	PLU=ON	SILVER OR AG
L67	69	SEA ABB=ON	PLU=ON	L50 NOT L66
L68	0	SEA ABB=ON	PLU=ON	L67 AND L64
L69	25	SEA ABB=ON	PLU=ON	L67 AND (57 OR L61 OR L62 OR L64)
		D SCAN		
L70	26	SEA ABB=ON	PLU=ON	L69 OR L65
L71	17	SEA ABB=ON	PLU=ON	L50 AND (L64 OR L66)
		D SCAN		
		D L71 1-17 KWIC		
L72	4665	SEA ABB=ON	PLU=ON	AG(2A) (FREE OR NO OR NONE OR ABSENCE OR
		LACK?)		
L73	3	SEA ABB=ON	PLU=ON	L72 AND L50
L74	3	SEA ABB=ON	PLU=ON	L73 OR L65
		D SCAN		
		D L74 1-3 KWIC		
L75	17	SEA ABB=ON	PLU=ON	L49 AND L45
L76	0	SEA ABB=ON	PLU=ON	L49 AND L46
L77	55	SEA ABB=ON	PLU=ON	L49 AND L47
L78	0	SEA ABB=ON	PLU=ON	L49 AND L48
		D SCAN L75		
L79	2402	SEA ABB=ON	PLU=ON	(SILVER OR AG) (A) (FREE OR NO OR NONE OR
		ABSENCE OR LACK?)		
L80	3	SEA ABB=ON	PLU=ON	L79 AND L50
L81	0	SEA ABB=ON	PLU=ON	L79 AND L75
L82	0	SEA ABB=ON	PLU=ON	L79 AND L77
L83	0	SEA ABB=ON	PLU=ON	L54 AND L79
L84	0	SEA ABB=ON	PLU=ON	L54 AND L79
L85	0	SEA ABB=ON	PLU=ON	L54 AND (L72 OR L64)
L86	3	SEA ABB=ON	PLU=ON	L80 OR L74
		D QUE STAT		
L87	29635	SEA ABB=ON	PLU=ON	?BENZOQUINONE?
L88	39242	SEA ABB=ON	PLU=ON	L87 OR L4 OR L47 OR L44 OR L45 OR L46 OR

L48
 L89 130 SEA ABB=ON PLU=ON L88 AND (L49 OR L51 OR L53)
 L90 3 SEA ABB=ON PLU=ON L89 AND L79
 L91 3 SEA ABB=ON PLU=ON L86 OR L90
 L92 5 SEA ABB=ON PLU=ON L75 AND L62
 L93 18 SEA ABB=ON PLU=ON L77 AND L62

FILE 'REGISTRY' ENTERED AT 17:03:06 ON 08 DEC 2004

=> d que stat l43

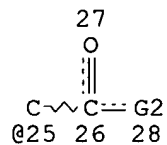
L17 SCR 1918
 L18 SCR 2043
 L19 SCR 1943
 L20 SCR 2005
 L37 SCR 470
 L39 STR



C~CN
 @17 18

C~X
 @19 20

C~SO2~G2
 @23 24 31



VAR G1=CH/9/11/13/15/17/19/23/25

VAR G2=N/O

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 10
 CONNECT IS E1 RC AT 12
 CONNECT IS E1 RC AT 21
 CONNECT IS E1 RC AT 22
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 10
 GGCAT IS SAT AT 21
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M6-X14 C AT 12
 ECOUNT IS M6-X14 C AT 22

GRAPH ATTRIBUTES:

RSPEC I
 NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

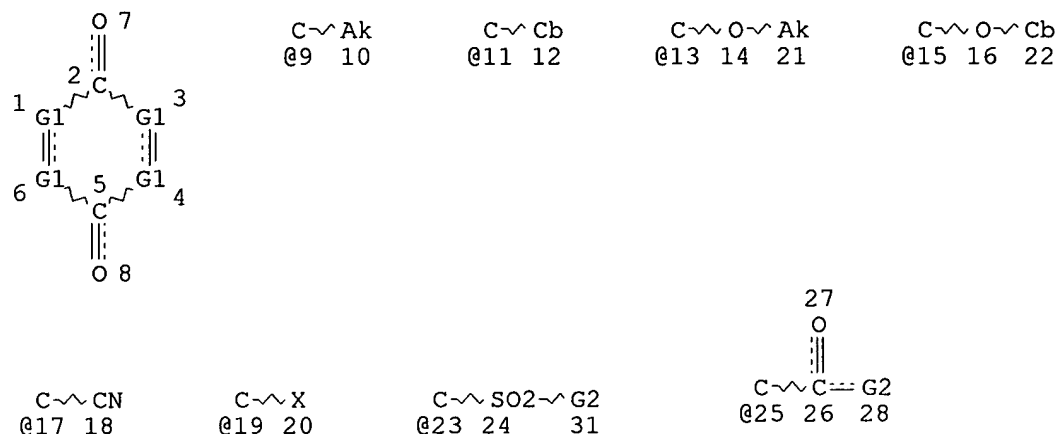
L40 SCR 1833
 L41 SCR 1140
 L43 5773 SEA FILE=REGISTRY SSS FUL L39 AND (L40 OR L41) AND L37 AND L19
 AND L20 NOT (L17 OR L18)

100.0% PROCESSED 296836 ITERATIONS
 SEARCH TIME: 00.00.08

5773 ANSWERS

=> d que stat 191

L4 26458 SEA FILE=HCA ABB=ON PLU=ON BENZOQUINONE#
 L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON TETRACHLOROBENZOQUINONE/CN
 L12 1 SEA FILE=REGISTRY ABB=ON PLU=ON 2,6-DIMETHOXY-1,4-BENZOQUINON
 E/CN
 L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON 106-51-4/RN
 L14 1 SEA FILE=REGISTRY ABB=ON PLU=ON 42580-16-5/RN
 L17 SCR 1918
 L18 SCR 2043
 L19 SCR 1943
 L20 SCR 2005
 L37 SCR 470
 L39 STR



VAR G1=CH/9/11/13/15/17/19/23/25

VAR G2=N/O

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 10
 CONNECT IS E1 RC AT 12
 CONNECT IS E1 RC AT 21
 CONNECT IS E1 RC AT 22
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 10
 GGCAT IS SAT AT 21
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M6-X14 C AT 12
 ECOUNT IS M6-X14 C AT 22

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

L40 SCR 1833
 L41 SCR 1140
 L43 5773 SEA FILE=REGISTRY SSS FUL L39 AND (L40 OR L41) AND L37 AND L19
 AND L20 NOT (L17 OR L18)
 L44 24427 SEA FILE=HCA ABB=ON PLU=ON L43
 L45 4067 SEA FILE=HCA ABB=ON PLU=ON L11
 L46 474 SEA FILE=HCA ABB=ON PLU=ON L12

L47 11723 SEA FILE=HCA ABB=ON PLU=ON L13
 L48 4 SEA FILE=HCA ABB=ON PLU=ON L14
 L49 13530 SEA FILE=HCA ABB=ON PLU=ON THERMOGRAPH? OR THERMOG OR
 ELECTROTHERMOGRAPH? OR PHOTOTHERMOGRAPH? OR (ELECTRO OR
 PHOTO) (A) (THERMOG OR THERMOGRAPH?) OR THERMAL(2A) COPY? OR (IR
 OR INFRARED#) (2A) COPY?
 L50 86 SEA FILE=HCA ABB=ON PLU=ON L49 AND L44
 L51 852 SEA FILE=HCA ABB=ON PLU=ON THERM? (2A) TONER#
 L53 30600 SEA FILE=HCA ABB=ON PLU=ON TONER#
 L64 2546 SEA FILE=HCA ABB=ON PLU=ON SILVER(2A) (FREE OR NO OR NONE OR
 ABSENCE)
 L65 1 SEA FILE=HCA ABB=ON PLU=ON L64 AND L50
 L72 4665 SEA FILE=HCA ABB=ON PLU=ON AG(2A) (FREE OR NO OR NONE OR
 ABSENCE OR LACK?)
 L73 3 SEA FILE=HCA ABB=ON PLU=ON L72 AND L50
 L74 3 SEA FILE=HCA ABB=ON PLU=ON L73 OR L65
 L79 2402 SEA FILE=HCA ABB=ON PLU=ON (SILVER OR AG) (A) (FREE OR NO OR
 NONE OR ABSENCE OR LACK?)
 L80 3 SEA FILE=HCA ABB=ON PLU=ON L79 AND L50
 L86 3 SEA FILE=HCA ABB=ON PLU=ON L80 OR L74
 L87 29635 SEA FILE=HCA ABB=ON PLU=ON ?BENZOQUINONE?
 L88 39242 SEA FILE=HCA ABB=ON PLU=ON L87 OR L4 OR L47 OR L44 OR L45 OR
 L46 OR L48
 L89 130 SEA FILE=HCA ABB=ON PLU=ON L88 AND (L49 OR L51 OR L53)
 L90 3 SEA FILE=HCA ABB=ON PLU=ON L89 AND L79
 L91 3 SEA FILE=HCA ABB=ON PLU=ON L86 OR L90

=> fil hca

=> d 191 1-3 cbib abs hitstr hitind

L91 ANSWER 1 OF 3 HCA COPYRIGHT 2004 ACS on STN

90:79133 Heat-developable photographic material comprising transition metal carbonyl compounds. Gardner, Sylvia Alice; Lelental, Mark (Eastman Kodak Co., USA). U.S. US 4097281 19780627, 11 pp. (English). CODEN: USXXAM. APPLICATION: US 1977-842836 19771017.

AB A **Ag-free** heat-developable photoimaging material is prepared by coating a support with a photosensitive composition comprised of a transition metal carbonyl compound, an organic Te(II) or Te(IV) compound as an oxidizing agent, a reducing agent, and a binder. The photoimaging material can be developed, after imagewise exposure, by heating at 80-250°. The photosensitive carbonyl compound has the general formula $RM(CO)_nR_1m$ (R = arene; M = Cr, Mo, Fe; R₁ = C1-6 alkyl, halo; m = 0,1; n = 3-5), and the preferred Te compound contains bidentate S-containing ligands. Thus, a solution prepared by mixing 100 mg Te[S₂CN(Et)₂]₂ with a solution of 100 mg 1-phenyl-3-pyrazolidone in 9 mL of a 5% solution of poly(vinyl butyral) in a (7:3 volume ratio) CH₂Cl₂-C₂H₃Cl₃ mixed solvent and 1 mL of a solution of 100 mg benzenechromiumtricarbonyl in 10 mL CH₂Cl₂ was coated on a poly(ethylene terephthalate) film, dried, imagewise exposed to a high-intensity flash lamp (Ascorlight 660 unit), and heated at 160° for 10 s to develop a black, neg. image.

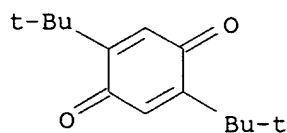
IT 2460-77-7

RL: USES (Uses)

(photosensitive compns. containing organic tellurium compound, transition metal carbonyl compound and, for **photothermog.**)

RN 2460-77-7 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,5-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

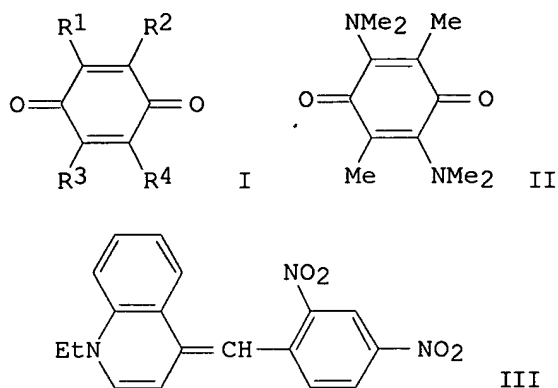


IC G03C005-24
 NCL 096048000HD
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST transition metal carbonyl compd **photothermog**; org tellurium
 compd **photothermog**
 IT Transition metal carbonyls
 RL: USES (Uses)
 (photosensitive compns. containing reducing agent, organic tellurium
 compound
 and, for **photothermog**.)
 IT **Photothermography**
 (photosensitive compns. containing transition metal carbonyl compound,
 reducing agent, and organic sulfur-containing tellurium compound for)
 IT Vinyl acetal polymers
 RL: USES (Uses)
 (butyrals, photosensitive compns. containing transition metal carbonyl
 compound, reducing agent, organic sulfur-containing tellurium compound and,
 for
photothermog.)
 IT Vinyl acetal polymers
 RL: USES (Uses)
 (formals, photosensitive compns. containing transition metal carbonyl
 compound, reducing agent, organic sulfur-containing tellurium compound and,
 for
photothermog.)
 IT 12078-28-3 12082-08-5 12082-25-6 12083-24-8 12108-11-1
 12109-10-3 12116-44-8 12125-87-0 12129-27-0 12129-67-8
 12154-63-1 12247-10-8 15228-38-3 53433-12-8 68796-02-1
 RL: USES (Uses)
 (photosensitive compns. containing organic sulfur-containing tellurium
 compound,
 reducing agent and, for **photothermog**.)
 IT 74-94-2 87-66-1 92-43-3 149-91-7, uses and miscellaneous 1948-33-0
2460-77-7 57125-62-9 66836-14-4
 RL: USES (Uses)
 (photosensitive compns. containing organic tellurium compound, transition
 metal
 carbonyl compound and, for **photothermog**.)
 IT 15080-52-1 20941-65-5 66261-90-3 69046-24-8 69046-25-9
 RL: USES (Uses)
 (photosensitive compns. containing reducing agent, transition metal
 carbonyl compound and, for **photothermog**.)
 IT 9003-53-6 9004-36-8 9010-76-8 24936-68-3, uses and miscellaneous
 24979-94-0 25213-24-5 25249-60-9 34755-29-8
 RL: USES (Uses)
 (photosensitive compns. containing transition metal carbonyl compound,
 reducing agent, organic sulfur-containing tellurium compound and, for
photothermog.)

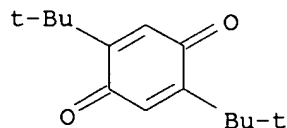
L91 ANSWER 2 OF 3 HCA COPYRIGHT 2004 ACS on STN
 89:68591 **Photothermographic** composition containing a quinone and a

photosensitive dye. Heseltine, D. W.; Bernard, R. E.; Goffe, C. A.
(Eastman Kodak Co., USA). Belg. BE 854990 19771124, 25 pp. (French).
CODEN: BEXXAL. APPLICATION: BE 1977-177866 19770524.

GI



- AB **Ag halide-free Ag** behenate-type **photothermog.** copying systems are produced by using a reducing agent and a photosensitive combination of a nitrobenzylidenedi hydroquinoline-type compound and a quinone derivative I (R1 = H, halogen, alkyl, aryl, alkoxy, or substituted amido; R2, R3 = R1 excluding substituted amido; R4 = C1-10 alkyl or substituted amido; and R1 and R2 taken together can represent the atoms necessary to complete a carbocyclic ring). Thus, 11.4 mL of a dispersion containing Ag behenate 168g, poly(vinyl butyral) 120g, and 1:1 Me2CO/PhMe 1600 mL was combined with a 6.3 weight % solution of 1,1'-bis-2-naphthol in Me2CO 4.3 mL, a 5 weight % solution of phthalimide in Me2CO 4.3 mL, and 5 mg each of II and III, coated on a paper support, dried, and processed to give a Dmax 1.66, Dmin 0.40, and relative sensitivity 550.
- IT **2460-77-7**
RL: USES (Uses)
(**photothermog.** composition containing dinitrobenzylidenedi hydroquinoline colorant and photosensitive)
- RN 2460-77-7 HCA
- CN 2,5-Cyclohexadiene-1,4-dione, 2,5-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



- IC G03C
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
- ST **photothermog** quinone nitrobenzylidenedi hydroquinoline
- IT **Photothermography**
(photosensitive compns. for, containing quinone derivative and nitrobenzylidenedi hydroquinoline-type compound)
- IT 42405-18-5 61354-96-9

RL: USES (Uses)

(**photothermog.** composition containing quinone and)

IT 2460-77-7 5350-26-5 18735-46-1 18735-50-7 18735-60-9

RL: USES (Uses)

(**photothermog.** composition containing dinitrobenzylidenedihydroquinoline colorant and photosensitive)

IT 42405-22-1

RL: USES (Uses)

(**photothermog.** composition containing photosensitive quinone and colorant of)

L91 ANSWER 3 OF 3 HCA COPYRIGHT 2004 ACS on STN

85:27383 **Silver** halide-free photographic recording

material. Adin, Anthony; Fleming, James C. (Eastman Kodak Co., USA).

Ger. Offen. DE 2516270 19751023, 84 pp. (German). CODEN: GWXXBX.

APPLICATION: DE 1975-2516270 19750414.

AB A **Ag-free** photog. recording material capable of giving both pos. and neg. images without any fixing step and having a sensitivity equal to that of Ag halide-containing systems is composed of a support coated with a radiation-sensitive layer containing a Co(III) complex free of sensitizable anions and a photoredn. agent which upon exposure to actinic radiation ≥ 300 nm forms a redox pair with the Co(III) complex. Thus, a poly(ethylene terephthalate) support was coated with a solution containing 2-isopropoxy-1,4-naphthoquinone 0.2, hexaamminecobalt(III) acetate 0.1, cellulose acetate butyrate 0.5, 2-methoxyethanol 5.0, and Me₂CO 5.0 g at 100 μ wet thickness. After drying this sheet was then exposed using a 400-W Hg lamp for 0.5 sec, combined with a receptor sheet composed of a poly(ethylene terephthalate) support coated with a mixture containing a 10 weight %

solution of cellulose acetate butyrate in Me₂CO-MeOH (80:20) 8, o-phthalaldehyde 0.25, and Me₂CO 1.75 g, heated at 100°, and separated to give a neutral image with a d. of 1.0 to 1.5.

IT 137-18-8 363-03-1 527-17-3 527-61-7

553-97-9 20765-04-2 25762-79-2

25762-93-0 55137-01-4 59641-13-3

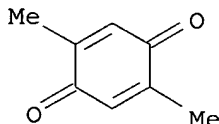
59641-14-4

RL: USES (Uses)

(photog. **silver-free** recording materials containing cobalt complexes and)

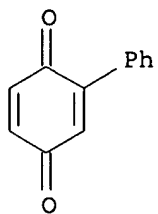
RN 137-18-8 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,5-dimethyl- (9CI) (CA INDEX NAME)



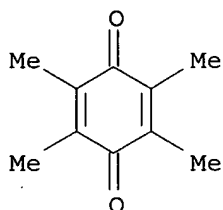
RN 363-03-1 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-phenyl- (9CI) (CA INDEX NAME)



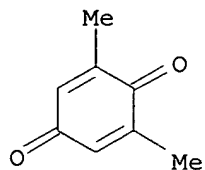
RN 527-17-3 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetramethyl- (9CI) (CA INDEX NAME)



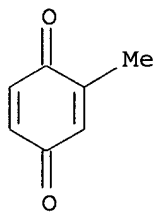
RN 527-61-7 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,6-dimethyl- (9CI) (CA INDEX NAME)



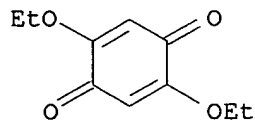
RN 553-97-9 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-methyl- (9CI) (CA INDEX NAME)



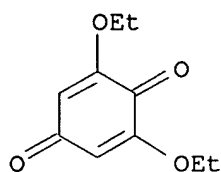
RN 20765-04-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,5-diethoxy- (9CI) (CA INDEX NAME)



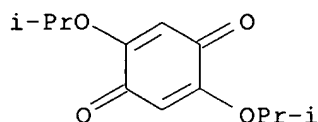
RN 25762-79-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,6-diethoxy- (9CI) (CA INDEX NAME)



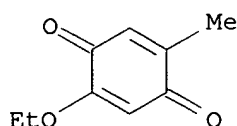
RN 25762-93-0 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,5-bis(1-methylethoxy)- (9CI) (CA INDEX NAME)



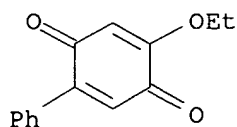
RN 55137-01-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-ethoxy-5-methyl- (9CI) (CA INDEX NAME)



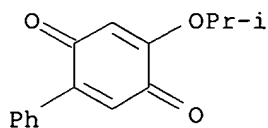
RN 59641-13-3 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-ethoxy-5-phenyl- (9CI) (CA INDEX NAME)



RN 59641-14-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-(1-methylethoxy)-5-phenyl- (9CI) (CA INDEX NAME)



IC G03C

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST **silver free** photog recording material; cobalt complex
photog material; **photothermog** cobalt complex; diazo copying
cobalt complex

IT **Photothermography**

(light-sensitive compns. for, containing cobalt complexes and photoredn.
agents for use with receptor sheets)

IT Photographic emulsions

(**silver-free**, containing cobalt complexes and
photoredn. agents)

IT 2348-82-5

RL: USES (Uses)

(photog. **silver-free** composition containing cobalt complexes and)

IT 13600-88-9 13841-83-3 14023-85-9 14283-12-6 59487-52-4
59561-55-6 59914-77-1 59914-78-2

RL: USES (Uses)

(photog. **silver-free** materials containing photoredn. agent and)

IT 58-27-5 84-11-7 84-47-9 84-54-8 117-80-6 130-15-4
137-18-8 347-46-6 **363-03-1** 485-47-2 **527-17-3**
527-61-7 **553-97-9** 584-59-8 673-48-3 733-51-7
1077-28-7 1221-13-2 1239-42-5 2197-57-1 3557-60-6 4384-39-8
4923-63-1 4979-72-0 5149-85-9 5397-62-6 5586-15-2 6012-08-4
6098-53-9 6336-72-7 6661-99-0 6956-96-3 7473-18-9 7509-44-6
14422-77-6 14422-78-7 15707-32-1 18523-44-9 18735-46-1
19149-04-3 20328-17-0 20351-60-4 20476-80-6 **20765-04-2**
24555-42-8 **25762-79-2** **25762-93-0** 31907-39-8
32740-62-8 33512-21-9 38577-09-2 38586-51-5 39510-97-9
39510-98-0 43101-09-3 50371-25-0 51767-57-8 52280-84-9
52280-86-1 53217-64-4 53626-49-6 53626-50-9 53971-82-7
55137-01-4 55699-93-9 55699-94-0 55699-95-1 55699-96-2
55699-97-3 55699-98-4 55700-01-1 55700-02-2 55700-03-3
55700-04-4 55700-05-5 55700-06-6 55700-07-7 55700-08-8
55700-09-9 55700-10-2 55700-11-3 55700-12-4 55720-84-8
55758-03-7 55922-70-8 59482-13-2 59597-61-4 59640-81-2
59640-83-4 59640-85-6 59640-87-8 59640-89-0 59640-91-4
59640-93-6 59640-95-8 59640-97-0 59640-99-2 59641-00-8
59641-02-0 59641-04-2 59641-05-3 59641-06-4 59641-07-5
59641-08-6 59641-09-7 59641-10-0 59641-11-1 59641-12-2
59641-13-3 **59641-14-4** 59641-15-5 59641-16-6
59641-17-7 59641-18-8 59641-19-9 59641-20-2 59641-21-3
59641-22-4 59641-23-5 59641-24-6 59641-25-7 59641-26-8
59641-27-9 59641-28-0 59641-29-1 59641-30-4 59641-31-5
59641-32-6 59641-33-7 59641-34-8 59641-35-9 59641-36-0
59641-37-1 59641-38-2 59641-39-3 59650-62-3 59893-14-0
59914-79-3 61497-91-4

RL: USES (Uses)

(photog. **silver-free** recording materials containing cobalt complexes and)

IT 9004-36-8

RL: USES (Uses)

(photog. **silver-free** recording materials containing cobalt complexes, photoredn. agents, and)

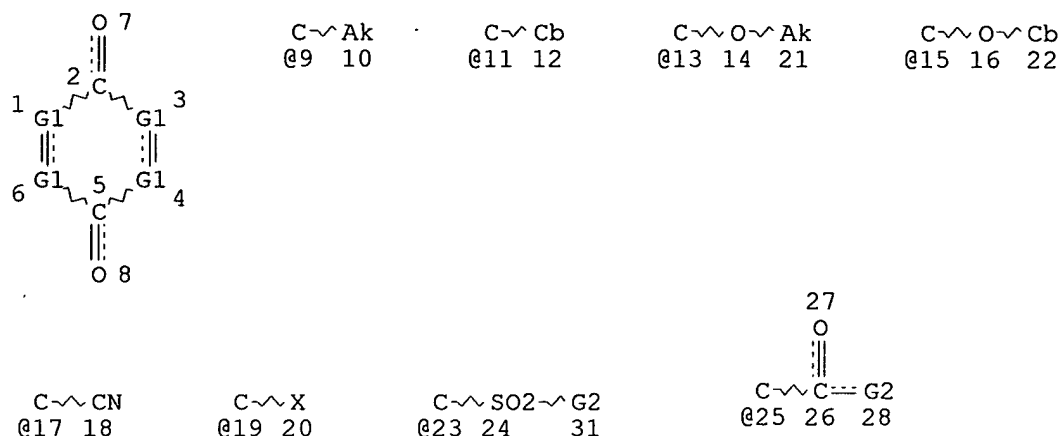
IT 643-79-8 7270-03-3

RL: USES (Uses)

(**photothermographic** receptor sheets containing, for use with donor sheets containing cobalt complexes and photoredn. agents)

=> d que stat 161

L17 SCR 1918
L18 SCR 2043
L19 SCR 1943
L20 SCR 2005
L37 SCR 470
L39 STR



VAR G1=CH/9/11/13/15/17/19/23/25

VAR G2=N/O

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 10

CONNECT IS E1 RC AT 12

CONNECT IS E1 RC AT 21

CONNECT IS E1 RC AT 22

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 10

GGCAT IS SAT AT 21

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M6-X14 C AT 12

ECOUNT IS M6-X14 C AT 22

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

L40 SCR 1833

L41 SCR 1140

L43 5773 SEA FILE=REGISTRY SSS FUL L39 AND (L40 OR L41) AND L37 AND L19
AND L20 NOT (L17 OR L18)

L44 24427 SEA FILE=HCA ABB=ON PLU=ON L43

L49 13530 SEA FILE=HCA ABB=ON PLU=ON THERMOGRAPH? OR THERMOG OR
ELECTROTHERMOGRAPH? OR PHOTOTHERMOGRAPH? OR (ELECTRO OR
PHOTO) (A) (THERMOG OR THERMOGRAPH?) OR THERMAL(2A) COPY? OR (IR
OR INFRARED#) (2A) COPY?

L50 86 SEA FILE=HCA ABB=ON PLU=ON L49 AND L44

L58 QUE ABB=ON PLU=ON LAMEL? OR LAMIN? OR MULTILAYER? OR M
ULTICOAT? OR MULTIFILM?

L59 QUE ABB=ON PLU=ON (MULTI OR MULTIPL? OR PLURAL? OR THR
EE OR MANY OR NUMEROUS? OR SEVERAL? OR FEW OR MULTIFOLD?
OR MANIFOLD? OR MULTITUD?) (2A) (LAYER? OR COAT? OR FILM?)

L60 QUE ABB=ON PLU=ON THREEPLY? OR THREEPLIES OR THREEPLIE
D OR (THREE OR 3) (2A) (PLY OR PLIES OR PLIED OR PLYING#)

L61 10 SEA FILE=HCA ABB=ON PLU=ON L50 AND (L58 OR L59 OR L60)

=> d 161 1-10 cbib abs hitstr hitind

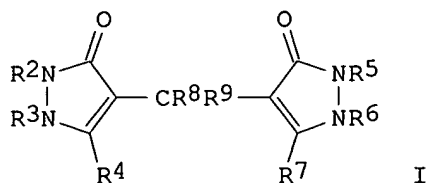
L61 ANSWER 1 OF 10 HCA COPYRIGHT 2004 ACS on STN

96:226621 **Photothermographic** materials. (Ricoh Co., Ltd., Japan).

Jpn. Kokai Tokkyo Koho JP 56162743 A2 19811214 Showa, 26 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1980-66955 19800520.

GI



AB A **photothermog.** film is composed of: (1) a support; (2) a base-releasing layer containing a Co(III) ammine (or amine) complex, a photoreducing agent, a H donor, and ≥ 1 chelating agent selected from $\text{HON:CR}(\text{CH}_2)_n\text{CR1:NOH}$ ($\text{R}, \text{R1} = \text{alkyl, aryl, aralkyl}; n = 0-3$) and I ($\text{R2}, \text{R3}, \text{R4}, \text{R5}, \text{R6}, \text{R7} = \text{H, alkyl, aryl}; \text{R8}, \text{R9} = \text{H, alkyl, aryl, aralkyl}$); (3) an intermediate layer; and (4) a coloration layer containing a photooxidizing agent, a color-former which colors upon oxidation, a coloration promoting acid, and a compound which becomes a reducing agent in the presence of NH_3 or an amine. Thus, a polyester film support was coated with (1) a composition containing poly(vinyl butyral), $[\text{Co}(\text{NH}_3)_6](\text{CF}_3\text{CO}_2)_3$, 9,10-phenanthrenequinone, polyethylene glycol, and dimethylglyoxime; (2) an intermediate layer of poly(vinyl alc.); and (3) a composition containing poly(vinyl butyral), 2,2'-bis(2-chlorophenyl)-4,4',5,5'-biimidazole, 4,4',4'''-tris(diethylamino)-2,2'-dimethyltriphenylmethane, p-toluenesulfonic acid, and p-benzoquinone. The resulting **photothermog.** film gave high d. cyan color images.

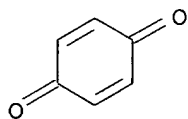
IT **106-51-4**, uses and miscellaneous **553-97-9**

RL: USES (Uses)

(**photothermog.** films containing)

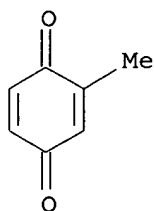
RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



RN 553-97-9 HCA

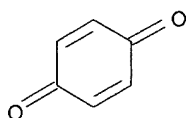
CN 2,5-Cyclohexadiene-1,4-dione, 2-methyl- (9CI) (CA INDEX NAME)



IC G03C001-72; G03C005-00

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other

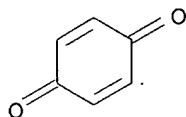
- Reprographic Processes)
- ST **photothermog** film cobalt complex
- IT **Photothermography**
(**multilayer** photosensitive films for, containing cobalt ammine complexes)
- IT 62-55-5 84-11-7 95-45-4 103-14-0 104-15-4, uses and miscellaneous
106-51-4, uses and miscellaneous 122-37-2 **553-97-9**
1707-68-2 15008-36-3 25322-68-3 59561-55-6
RL: USES (Uses)
(**photothermog.** films containing)
- L61 ANSWER 2 OF 10 HCA COPYRIGHT 2004 ACS on STN
- 96:113514 **Photothermographic** materials. (Ricoh Co., Ltd., Japan).
Jpn. Kokai Tokkyo Koho JP 56116026 A2 19810911 Showa, 12 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1980-20274 19800220.
- AB A **photothermog.** sheet is composed of (1) a support, (2) an image fixing layer containing a Co(III) ammine (or amine) complex salt, a photoreducing agent, a H donor, a metal oxide, and a chelating agent of the formula $\text{HON:CR(CH}_2\text{)}_n\text{CR1:NOH}$ (R, R1 = alkyl, aryl, aralkyl; n = 0-3), and (3) a coloration layer containing a leucoaminotriarylmethane strong acid salt, a photooxidizing agent, and SiO₂. Thus, a film support was coated with a composition containing cellulose acetate butyrate, ZnO, [Co(NH₃)₆](CF₃CO₂)₃, p-benzoquinone, polyethylene glycol, and dimethylglyoxime and subsequently coated with a composition containing cellulose acetate butyrate, SiO₂, bis(4-diethylamino-o-tolyl)(4-diethylaminophenyl)methane, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, polyethylene glycol, and p-toluenesulfonic acid to give a **photothermog.** film.
- IT **106-51-4**, uses and miscellaneous
RL: USES (Uses)
(**photothermog.** photosensitive materials containing)
- RN 106-51-4 HCA
- CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IC G03C001-72
- CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **photothermog** film cobalt complex
- IT **Photothermography**
(photosensitive films for, **multilayer**)
- IT 84-11-7 95-45-4 104-15-4, uses and miscellaneous **106-51-4**,
uses and miscellaneous 1314-13-2, uses and miscellaneous 1707-68-2
3002-18-4 7631-86-9, uses and miscellaneous 9004-36-8 25322-68-3
59561-55-6 68582-45-6
RL: USES (Uses)
(**photothermog.** photosensitive materials containing)
- L61 ANSWER 3 OF 10 HCA COPYRIGHT 2004 ACS on STN
- 95:52670 **Photothermographic** photosensitive materials. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56008133 19810127 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-84699 19790703.
- AB A **photothermog.** material is composed of (1) a support, (2) a layer containing a H donor and a Co(III) ammine complex, and (3) a layer

containing a photo-oxidizing agent, a color former which forms color upon oxidation, an acid, and an adsorbent. Thus, a polyester film was coated with a composition containing [(Co(NH₃)₆](CF₃CO₂)₃ 500, 9,10-phenanthrenequinone 40, polyethylene glycol 500, p-benzoquinone 100 mg, and cellulose acetate butyrate 1 g. Then the film was over-coated with a composition containing 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole 132, bis(p-diethylamino-o-tolyl)(p-diethylaminophenyl)methane 48, p-toluenesulfonic acid 38 mg, polyethylene glycol 0.5, cellulose acetate butyrate 2, and Mol. Sieve A 0.5 g to give a **photothermog.** film. The film was imagewise exposed to visible light, heated at 130°, and uniformly exposed to UV light to give high-d. pos. images.

IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (photothermog. photosensitive materials containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST cobalt complex **photothermog** film
 IT **Photothermography**

(multilayer photosensitive films for, containing cobalt complex and zeolite)

IT Zeolites, uses and miscellaneous
 RL: USES (Uses)

(A, **photothermog.** photosensitive materials containing)

IT 84-11-7 104-15-4, uses and miscellaneous 106-51-4, uses and miscellaneous 1707-68-2 9004-36-8 25322-68-3 59561-55-6 68582-45-6
 RL: USES (Uses)

(photothermog. photosensitive materials containing)

L61 ANSWER 4 OF 10 HCA COPYRIGHT 2004 ACS on STN

95:52667 **Photothermographic** photosensitive materials. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56011448 19810204 Showa, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-87179 19790710.

AB A **photothermog.** photosensitive sheet is composed of (1) a support, (2) a layer containing a Co(III) complex salt, a photoreducing agent, and a H donor, (3) an intermediate layer containing a resin binder, and (4) a layer containing a photooxidizing agent, a N-containing organic color former which

forms color upon oxidation, and a coloration-promoting aid. Thus, a film support was coated with a composition containing polyethylene glycol, [Co(NH₃)₈](CF₃Co₂)₃, p-benzoquinone, and cellulose acetate butyrate, then coated with cellulose acetate butyrate solution, and subsequently coated with a composition containing bis(4-diethylamino-o-tolyl)(4-diethylaminophenyl) methane,

2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, p-toluenesulfonic acid, cellulose acetate butyrate, and polyethylene glycol to give a **photothermog.** film. The film was imagewise exposed to visible light, heated at 150°, and uniformly exposed to UV light to form blue pos. images having high optical d.

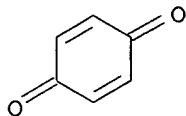
IT 106-51-4, uses and miscellaneous

RL: USES (Uses)

(photothermog. photosensitive materials containing)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST photothermog film cobalt complex

IT Photothermography

(photosensitive films for, multilayer, containing cobalt complexes)

IT 84-11-7 104-15-4, uses and miscellaneous 106-51-4, uses and miscellaneous 1707-68-2 9004-36-8 25322-68-3 59561-55-6 68582-45-6

RL: USES (Uses)

(photothermog. photosensitive materials containing)

L61 ANSWER 5 OF 10 HCA COPYRIGHT 2004 ACS on STN

95:52666 Photothermographic photosensitive films. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56011451 19810204 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-87685 19790711.

AB A photothermog. photosensitive sheet is composed of (1) a support, (2) a layer containing a Co(III) complex salt, a photoreducing reagent, a H donor, a colorless metal oxide, and a binder, and (3) a layer containing an acidic salt of a leucoaminotriarylmethane, a photooxidizing agent, a binder, and SiO₂. Thus, a film was coated with a composition containing

ZnO, cellulose acetate butyrate, [Co(NH₃)₆](CF₃CO₂)₃, p-benzoquinone, and polyethylene glycol, and subsequently coated with a composition containing cellulose acetate butyrate, SiO₂, bis(4-diethylamino-o-tolyl)(4-diethylaminophenyl)methane, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, p-toluenesulfonic acid, and polyethylene glycol to give a photothermog. film. The film was imagewise exposed, heated at 130°, and uniformly exposed to a UV lamp to give high optical d. pos. images.

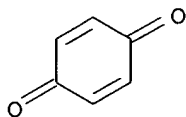
IT 106-51-4, uses and miscellaneous

RL: USES (Uses)

(photothermog. photosensitive materials containing)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST photothermog film cobalt complex

IT Photothermography

(photosensitive films for, multilayer photofixing type)

IT 84-11-7 106-51-4, uses and miscellaneous 1314-13-2, uses and

miscellaneous 1707-68-2 3002-18-4 4482-70-6 7631-86-9, uses and
 miscellaneous 9004-36-8 25322-68-3 59561-55-6 68582-45-6
 RL: USES (Uses)

(**photothermog.** photosensitive materials containing)

L61 ANSWER 6 OF 10 HCA COPYRIGHT 2004 ACS on STN

95:33433 **Photothermographic** imaging materials. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56001932 19810110 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-78344 19790620.

AB A photoactivation type thermal recording sheet is composed (1) a support, (2) a layer containing a Co(III) complex, a photoreducing agent, and a H donor, (3) a layer containing a Co(III) complex and a binder, and (4) a layer containing a photooxidizing agent, a color former which gives color upon oxidation, and an acid which promotes the coloration. Thus, a polyester film support was coated with a composition containing [Co(NH₃)₆](CF₃CO₂)₃, p-benzoquinone, and cellulose acetate butyrate, then coated with a composition containing cellulose acetate butyrate and [Co(NH₃)₆](CF₃CO₂)₃, and coated with a composition containing

bis(4-diethylamino-o-tolyl)(4-diethylaminophenyl)methane, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, p-toluenesulfonic acid, polyethylene glycol, and cellulose acetate butyrate to give a photoactivation type thermal recording film. The film was imagewise exposed to a W lamp, heated at 150°, and uniformly exposed to give pos. images (blue, D_{max} = 1.58, D_{min} = 0.12).

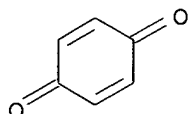
IT **106-51-4**, uses and miscellaneous

RL: USES (Uses)

(**photothermog.** materials containing, **multilayer**)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72; G03C001-52

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST **photothermog** film **multilayer** cobalt complex

IT **Photothermography**

(light-fixing type **multilayer** photosensitive sheets for, containing cobalt complexes)

IT 84-11-7 **106-51-4**, uses and miscellaneous 1707-68-2 9004-36-8 25322-68-3 59561-55-6 68582-45-6

RL: USES (Uses)

(**photothermog.** materials containing, **multilayer**)

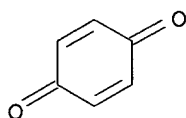
L61 ANSWER 7 OF 10 HCA COPYRIGHT 2004 ACS on STN

91:149464 Heat-sensitive imaging materials. Sakuma, Seiichi; Kunikane, Makoto; Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 54046571 19790412 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1977-113083 19770920.

AB Heat-sensitive imaging materials contain a Co(III) complex salt which releases an alkaline substance upon reduction and an aquo complex in the heat-sensitive layer. The heat-sensitive material also contains a substance which decolors or colors upon reaction with the alkaline substance in the heat-sensitive layer or its adjacent layer. Thus, a heat-sensitive composition consisting of [Co(NH₃)₆](CF₃CO₂)₃ 3, p-benzoquinone 1, 1-nitroso-2-naphthol 1, ZnSO₄·5H₂O (an aquo complex) 5, acetyl cellulose

butyrate 10 g, and Me₂CO 100 mL was coated on an Al-laminated polyester support to give a heat-sensitive image-recording material, on which redish brown images are recorded by joule heat produced by a 30 V stylus.

IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (electrothermog. recording composition containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)

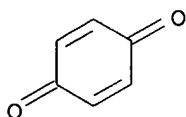


IC B41M005-18
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST cobalt complex thermal recording sheet; **electrothermog** recording cobalt complex
 IT **Electrothermography**
 (heat-sensitive compns. containing cobalt complex and metal aquo-complex for)
 IT 106-51-4, uses and miscellaneous 131-91-9 7782-63-0
 9017-80-5 13820-83-2 59561-55-6 71386-13-5
 RL: USES (Uses)
 (electrothermog. recording composition containing)

L61 ANSWER 8 OF 10 HCA COPYRIGHT 2004 ACS on STN
 91:132118 Heat-sensitive recording materials. Sakuma, Seiichi; Kunikane, Makoto; Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 54046569 19790412 Showa, 12 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1977-113080 19770920.

AB Heat-sensitive image-recording materials have a recording layer containing a stable (at room temperature) Co(III) complex and an inorg. reducing agent. Optionally, the inorg. reducing agent is added to a layer adjacent to the recording layer. The heat-sensitive recording materials have good sensitivity and yield clear images. The recording materials can be used for **electrothermog**. recording (i.e. by joule heating) or for electrolytic recording. Thus, [Co(NH₃)₆](CF₃CO₂)₃ 3, p-benzoquinone 1.5, Zn powder 10, cellulose acetate butyrate 10 g, and Me₂CO 100 mL were mixed and coated on an Al-laminated polyester film support to give a heat-sensitive imaging sheet on which black images were recorded by using a ball-point stylus at 15 V and 10-150 cm/min. When recording was carried out at 50 V, the recording layer was removed to form transparent images, and the film was heated together with a diazo copying paper to give an image on the diazo copying paper.

IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (heat-sensitive imaging material containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC B41M005-18
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
IT **Electrothermography**
(heat-sensitive sheets for, containing cobalt complex and reducing agent)
IT **106-51-4**, uses and miscellaneous 130-15-4 1314-98-3, uses and
miscellaneous
RL: USES (Uses)
(heat-sensitive imaging material containing)

L61 ANSWER 9 OF 10 HCA COPYRIGHT 2004 ACS on STN

91:115339 Image recording method. Sakuma, Seiichi; Kunikane, Makoto;
Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
54036814 19790317 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
JP 1977-101903 19770825.

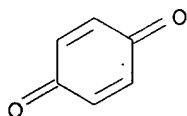
AB Images are formed by reacting an organic reducing agent in an imaging layer
containing a Co(III) complex salt which generates an alkaline substance upon
reduction

The imaging materials have excellent storage stability and image recording
is very simple. Thus, a paper support was coated with a composition consisting
of [Co(NH₃)₆](CF₃CO₂)₃ 3, p-benzoquinone 1.5, acetyl cellulose butyrate 10
g, and Me₂CO 100 mL to give an image-recording paper. Then, a
5,8-dichloro-4-methoxynaphthol solution (0.1 mol/L MeOH) was used to record
(yellow-orange) images on the paper by using 1-mm-diameter(inner)
polyethylene tube. The recorded paper was covered with a polyester film
(on the recording side), then a com. diazo copying paper was contacted on
the support side of the recording paper, and the **laminates** was
heated (100-120°) to give dark brown images on the recording paper
and blue images on the diazo copying paper.

IT **106-51-4**, uses and miscellaneous
RL: USES (Uses)
(image recording paper containing)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC B41M005-12; C09D011-00
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
IT Recording
Thermography
(cobalt complex redox, developers containing organic reducing agent for)
IT **106-51-4**, uses and miscellaneous 131-91-9 13820-83-2
59561-55-6
RL: USES (Uses)
(image recording paper containing)

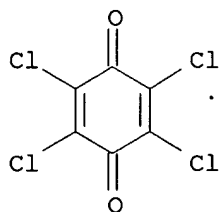
L61 ANSWER 10 OF 10 HCA COPYRIGHT 2004 ACS on STN

58:63934 Original Reference No. 58:10904d-f Hectograph master. Ritzerfeld,
Wilhelm; Ritzerfeld, Gerhard GB 921673 19630320, 5 pp. (Unavailable).
PRIORITY: DE 19600606.

AB **Thermographic** spirit duplicator or hectograph masters can be
prepared by reflex exposure of the copy to be duplicated while in contact
with a 2-layer **laminates** composed of dye-forming compds. brought
into intimate contact as infrared energy is absorbed by the image areas
and transferred to 1 of the **laminates** layers, where it fused into

contact with the 2nd sheet, and a dye is formed is the image base for a spirit duplicator. An example: gelatin-polyglycol emulsion 2:1 containing 30% leucomalachite green is coated on the master acetate sheet. In contact with this sheet is a parchment sheet coated with a polymethacrylic acid ester containing a softener and tetrachloroquinone as an oxidizing medium. Exposure of the 2 sheets in contact with the copy is about 15 sec. under infrared, during which time the sheets adhere and react in the heated areas. The acetate sheet can then be stripped and used as a duplicator master.

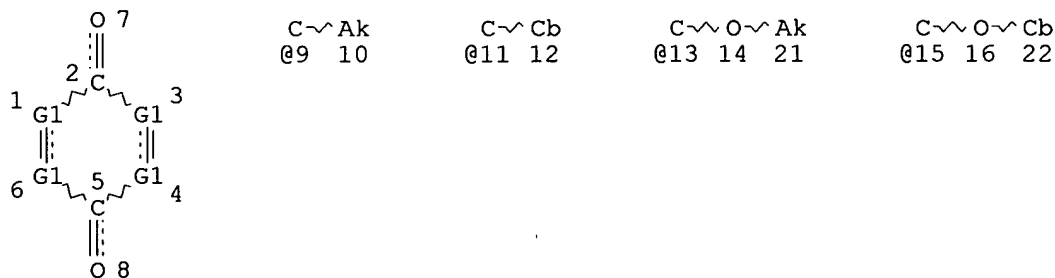
IT **118-75-2**, p-Benzoquinone, tetrachloro-
 (in hectographic sheets, as oxiden. agent for leuco dyes)
 RN 118-75-2 HCA
 CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX NAME)



CC 11 (Radiation Chemistry and Photochemistry)
 IT Hectography
 (master sheets for, from two-layer **laminated** sheet containing dye-forming compds. and dye formation by infrared)
 IT **118-75-2**, p-Benzoquinone, tetrachloro-
 (in hectographic sheets, as oxiden. agent for leuco dyes)

=> d que stat 157

L17 SCR 1918
 L18 SCR 2043
 L19 SCR 1943
 L20 SCR 2005
 L37 SCR 470
 L39 STR



C~CN
 @17 18

C~X
 @19 20

C~SO2~G2
 @23 24 31

27
 O
 |||
 C~C~G2
 @25 26 28

VAR G1=CH/9/11/13/15/17/19/23/25

VAR G2=N/O

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 10
 CONNECT IS E1 RC AT 12
 CONNECT IS E1 RC AT 21
 CONNECT IS E1 RC AT 22
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 10
 GGCAT IS SAT AT 21
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M6-X14 C AT 12
 ECOUNT IS M6-X14 C AT 22

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

L40 SCR 1833
 L41 SCR 1140
 L43 5773 SEA FILE=REGISTRY SSS FUL L39 AND (L40 OR L41) AND L37 AND L19
 AND L20 NOT (L17 OR L18)
 L44 24427 SEA FILE=HCA ABB=ON PLU=ON L43
 L49 13530 SEA FILE=HCA ABB=ON PLU=ON THERMOGRAPH? OR THERMOG OR
 ELECTROTHERMOGRAPH? OR PHOTOTHERMOGRAPH? OR (ELECTRO OR
 PHOTO) (A) (THERMOG OR THERMOGRAPH?) OR THERMAL(2A) COPY? OR (IR
 OR INFRARED#) (2A) COPY?
 L50 86 SEA FILE=HCA ABB=ON PLU=ON L49 AND L44
 L56 208553 SEA FILE=HCA ABB=ON PLU=ON CYAN OR MAGENTA OR YELLOW
 L57 4 SEA FILE=HCA ABB=ON PLU=ON L50 AND L56

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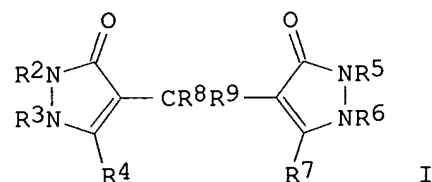
L57 ANSWER 1 OF 4 HCA COPYRIGHT 2004 ACS on STN

96:226621 **Photothermographic** materials. (Ricoh Co., Ltd., Japan).

Jpn. Kokai Tokkyo Koho JP 56162743 A2 19811214 Showa, 26 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1980-66955 19800520.

GI



AB A **photothermog.** film is composed of: (1) a support; (2) a base-releasing layer containing a Co(III) ammine (or amine) complex, a photoreducing agent, a H donor, and ≥ 1 chelating agent selected from $\text{HON:CR}(\text{CH}_2)_n\text{CR1:NOH}$ ($\text{R}, \text{R1} = \text{alkyl, aryl, aralkyl}$; $n = 0-3$) and I ($\text{R2}, \text{R3}, \text{R4}, \text{R5}, \text{R6}, \text{R7} = \text{H, alkyl, aryl}$; $\text{R8}, \text{R9} = \text{H, alkyl, aryl, aralkyl}$); (3) an intermediate layer; and (4) a coloration layer containing a photooxidizing agent, a color-former which colors upon oxidation, a coloration promoting acid, and a compound which becomes a reducing agent in the presence of NH_3 or an amine. Thus, a polyester film support was coated with (1) a composition containing poly(vinyl butyral), $[\text{Co}(\text{NH}_3)_6](\text{CF}_3\text{CO}_2)_3$, 9,10-phenanthrenequinone, polyethylene glycol, and dimethylglyoxime; (2) an intermediate layer of

poly(vinyl alc.); and (3) a composition containing poly(vinyl butyral), 2,2'-bis(2-chlorophenyl)-4,4',5,5'-biimidazole, 4,4',4''-tris(diethylamino)-2,2'-dimethyltriphenylmethane, p-toluenesulfonic acid, and p-benzoquinone. The resulting **photothermog.** film gave high d. **cyan** color images.

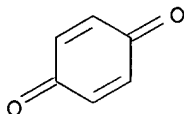
IT 106-51-4, uses and miscellaneous 553-97-9

RL: USES (Uses)

(**photothermog.** films containing)

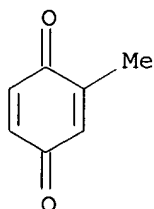
RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



RN 553-97-9 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-methyl- (9CI) (CA INDEX NAME)



IC G03C001-72; G03C005-00

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photothermog** film cobalt complex

IT **Photothermography**

(multilayer photosensitive films for, containing cobalt ammine complexes)

IT 62-55-5 84-11-7 95-45-4 103-14-0 104-15-4, uses and miscellaneous

106-51-4, uses and miscellaneous 122-37-2 553-97-9

1707-68-2 15008-36-3 25322-68-3 59561-55-6

RL: USES (Uses)

(**photothermog.** films containing)

L57 ANSWER 2 OF 4 HCA COPYRIGHT 2004 ACS on STN

91:115339 Image recording method. Sakuma, Seiichi; Kunikane, Makoto;

Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP

54036814 19790317 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION:

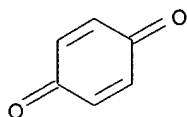
JP 1977-101903 19770825.

AB Images are formed by reacting an organic reducing agent in an imaging layer containing a Co(III) complex salt which generates an alkaline substance upon reduction

The imaging materials have excellent storage stability and image recording is very simple. Thus, a paper support was coated with a composition consisting of [Co(NH₃)₆](CF₃CO₂)₃ 3, p-benzoquinone 1.5, acetyl cellulose butyrate 10 g, and Me₂CO 100 mL to give an image-recording paper. Then, a 5,8-dichloro-4-methoxynaphthol solution (0.1 mol/L MeOH) was used to record (**yellow-orange**) images on the paper by using 1-mm-diameter(inner) polyethylene tube. The recorded paper was covered with a polyester film (on the recording side), then a com. diazo copying paper was contacted on the support side of the recording paper, and the laminate was heated

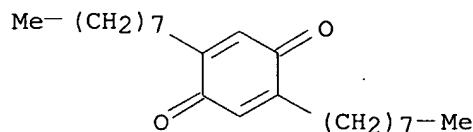
(100-120°) to give dark brown images on the recording paper and blue images on the diazo copying paper.

IT **106-51-4**, uses and miscellaneous
 RL: USES (Uses)
 (image recording paper containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



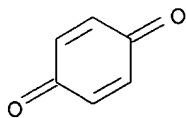
IC B41M005-12; C09D011-00
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 IT Recording
Thermography
 (cobalt complex redox, developers containing organic reducing agent for)
 IT **106-51-4**, uses and miscellaneous 131-91-9 13820-83-2
 59561-55-6
 RL: USES (Uses)
 (image recording paper containing)

L57 ANSWER 3 OF 4 HCA COPYRIGHT 2004 ACS on STN
 73:40500 **Thermographic** recording erasure. Goldman, Martin;
 Staudenmayer, William J. (Eastman Kodak Co.). U.S. US 3515568 19700602, 5
 pp. (English). CODEN: USXXAM. APPLICATION: US 1967-650634 19670703.
 AB **Thermographic** images composed of colored quinhydrone complexes
 may be erased by heating between 60 and 100°. The complexes are
 formed by the reaction of a dihydroxybenzene, such as 2,5-di-n-
 octylhydroquinone (I) or 2-(ω-carboxy-n-pentyl)-5-
 methylhydroquinone, and a p-quinone, such as 2,5-di-n-octylquinone (II) or
 2-(ω-carboxy-n-pentyl)-5-n-octylquinone. E.g., II 2, and I 3, are
 dissolved with polystyrene ("Koppers 8X") 10 g, in MeCCl₃ 100 ml and the
 solution coated onto a poly(ethylene terephthalate) film base subbed with a
 methyl acrylate, vinylidene chloride, and itaconic acid terpolymer
 coating. The film is then heated to 75°, thus obtaining a pale
yellow coating. The latter is contacted with a black ir-absorbing
 image on a white background and exposed to a 1350-W ir lamp at 1 cm
 distance. The dark-blue image obtained may be erased by heating the
 recording to 75°, and again imaged. This cycle may be repeated
 several times.
 IT **19447-44-0**
 RL: USES (Uses)
 (reaction products with dioctylhydroquinone, **photothermographic**
 compns. containing, for erasable images)
 RN 19447-44-0 HCA
 CN 2,5-Cyclohexadiene-1,4-dione, 2,5-dioctyl- (9CI) (CA INDEX NAME)



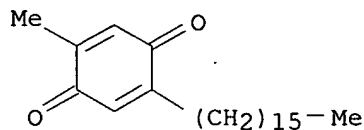
IC B41M; H01J
 NCL 117002000

- CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)
- ST **thermographic** recording; recording **thermographic**;
erasure **thermographic** recording; colored quinhydrone complexes;
quinhydrone complexes colored; complexes quinhydrone colored
- IT **Photothermography**
(with erasable images by quinhydrone complexes)
- IT 29235-45-8
RL: USES (Uses)
(reaction products with (carboxypentyl)methylhydroquinone,
photothermographic compns. containing, for erasable images)
- IT 29235-44-7
RL: USES (Uses)
(reaction products with (carboxypentyl)octylquinone,
photothermographic compns. containing, for erasable images)
- IT **19447-44-0**
RL: USES (Uses)
(reaction products with dioctylhydroquinone, **photothermographic**
compns. containing, for erasable images)
- IT 10551-36-7
RL: USES (Uses)
(reaction products with dioctylquinone, **photothermographic**
compns. containing, for erasable images)
- L57 ANSWER 4 OF 4 HCA COPYRIGHT 2004 ACS on STN
- 53:110067 Original Reference No. 53:19653e-h **Thermographic** copying
material. Crevling, Thomas V.; Haag, Donald J.; Abbott, Thomas I.
(Eastman Kodak Co.). US 2899334 19590811 (Unavailable). APPLICATION: US
- AB Dihydroxybenzenes (preferably substituted hydroquinones) and p-quinones
separated physically but not prevented from chemical interaction print out in
color under infrared illumination. Each component is applied as a sep.
coating on a transparent base. For blue, purple, **yellow**,
magenta, green, red, and black print out, resp.,
2-methyl-5-hexadecylhydroquinone (I) and 2-methyl-5-hexadecyl-p-quinone
(II), octadecylhydroquinone and II, 2-methyl-5-palmitoylhydroquinone and
II, I and p-chloro-phenyl-p-quinone, I and p-nitrophenyl-p-quinone, I and
1,4-naphthoquinone, and I plus 2-methyl-5-palmitoylhydroquinone and II are
used. Other methods for securing the phys. separation but chemical interaction
required are, e.g. ball milling of 7 g. I with 0.6 g. ethylcellulose in 60
cc. trichloroethylene (III) and combination of this solution with 7.0 g. II
in 30 cc. III. The mixture is dispersed in 150 cc. of an aqueous gelatin
solution
containing 1.5 cc. 10% aqueous Na isobutyl-naphthalenesulfonate and coated on
paper. Exposure of the coating produced a sharp image of excellent
contrast.
- IT **106-51-4**, p-Benzoquinone
(derivs., in color **photothermography**)
- RN 106-51-4 HCA
- CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IT **21182-45-6**, p-Benzoquinone, 2-hexadecyl-5-methyl-
(in color **photo-thermography**)
- RN 21182-45-6 HCA

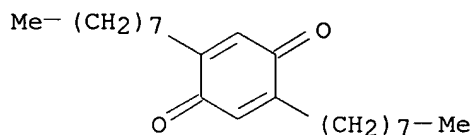
CN 2,5-Cyclohexadiene-1,4-dione, 2-hexadecyl-5-methyl- (9CI) (CA INDEX NAME)



IT 19447-44-0, p-Benzoquinone, 2,5-dioctyl- 35175-59-8,
p-Benzoquinone, octadecyl-
(in color **photothermography**)

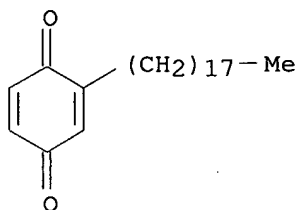
RN 19447-44-0 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,5-dioctyl- (9CI) (CA INDEX NAME)



RN 35175-59-8 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2-octadecyl- (9CI) (CA INDEX NAME)



CC 5 (Photography)

IT **Photothermography**

(color, light-sensitive compns. for)

IT 106-51-4, p-Benzoquinone 123-31-9, Hydroquinone
(derivs., in color **photothermography**)

IT 21182-45-6, p-Benzoquinone, 2-hexadecyl-5-methyl-
(in color **photo-thermography**)

IT 130-15-4, 1,4-Naphthoquinone 636-32-8, 1,2,4,5-Benzenetetrol
1706-69-0, Hydroquinone, octyl- 1706-70-3, Hydroquinone, octadecyl-
10551-36-7, Hydroquinone, 2,5-dioctyl- 15394-91-9, p-Benzoquinone,
(p-nitrophenyl)- 19447-44-0, p-Benzoquinone, 2,5-dioctyl-
20307-43-1, p-Benzoquinone, (p-chlorophenyl)- 21182-64-9,
Hexadecanophenone, 2',5'-dihydroxy-4'-methyl- 21182-65-0, Hydroquinone,
2-hexadecyl-5-methyl- 35175-59-8, p-Benzoquinone, octadecyl-
63134-27-0, Octanophenone, 2',5'-dihydroxy-4'-octyl- 90875-91-5,
Hydroquinone, 2-tert-butyl-5-chloro- 101267-37-2, Hydroquinone,
2-allyl-5-butyl-
(in color **photothermography**)

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L14 1 SEA FILE=REGISTRY ABB=ON PLU=ON 42580-16-5/RN

L48 4 SEA FILE=HCA ABB=ON PLU=ON L14

=> d 148 1-4 cbib abs hitstr hitind

L48 ANSWER 1 OF 4 HCA COPYRIGHT 2004 ACS on STN

102:70131 Oxidants for reducing post-process Dmin increase in positive redox dye-releasing image transfer systems. Armour, Eugene A.; Munshi, Jal F. (Eastman Kodak Co., USA). U.S. US 4485164 A 19841127, 10 pp. (English). CODEN: USXXAM. APPLICATION: US 1983-511080 19830706.

AB A photog. diffusion-transfer element contains ≥ 1 emulsion layer associated with a pos.-working redox dye-releaser employs an oxidant located between the support and the photosensitive portion of the element. The oxidant has an electrode potential of $-200 - +1200$ mV vs. a saturated calomel electrode at a pH of .apprx.5-.apprx.6. Thus, an integral imaging-receiving element was prepared consisting of a transparent poly(ethylene terephthalate) support, a metal-containing layer, a reflecting layer, an opaque layer, a gelatin interlayer, a layer containing 2,5-didodecylquinone 0.54 g/m², a red-sensitive Ag halide neg. emulsion layer containing a cyan dye-releaser, a reducing agent and an inhibitor, a gelatin interlayer, a green-sensitive Ag halide neg. emulsion, a gelatin interlayer, a blue-sensitive Ag halide neg. emulsion, and a cover sheet contained an acid and a timing layer. The element was imagewise exposed, processed by rupturing a pod containing a composition of KOH 52, NaOH 3.4, 4-hydroxymethyl-4-methyl-1-p-tolyl-3-pyrazolidinone 12, EDTA di-Na salt 10, Pb oxide 0.4, Na₂SO₃ 3, Tamol SN 2, KBr 5, CMC 56, C 165 g, and H₂O to 1 L between the imaging-receiving element and the cover sheet to provide a red, green and blue Dmax/Dmin of 1.9/0.14, 1.9/0.12 and 1.7/0.14, resp. After incubation at 60° and 70% relative humidity for 48 h Dmin of red, green and blue were 0.46, 0.39 and 0.37 resp.

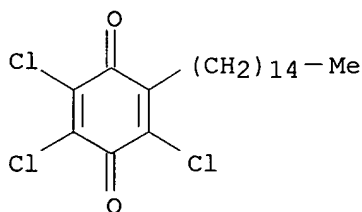
IT 42580-16-5

RL: USES (Uses)

(photog. diffusion-transfer element with layer containing, located between support and photosensitive portion)

RN 42580-16-5 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5-trichloro-6-pentadecyl- (9CI) (CA INDEX NAME)



IC G03C005-54; G03C001-40; G03C007-00

NCL 430214000

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 7681-55-2 7790-28-5 33875-12-6 42580-16-5

RL: USES (Uses)

(photog. diffusion-transfer element with layer containing, located between support and photosensitive portion)

L48 ANSWER 2 OF 4 HCA COPYRIGHT 2004 ACS on STN

100:15275 Reducing post-process Dmin increase in positive redox dye-releasing image transfer systems using oxidants in cover sheets. Armour, Eugene A.; Henzel, Richard P.; Mowrey, Rowland G. (Eastman Kodak Co., USA). U.S. US

4409315 A 19831011, 12 pp. (English). CODEN: USXXAM. APPLICATION: US 1982-392508 19820628.

AB A diffusion-transfer photog. element comprises a photosensitive emulsion layer associated with a pos. working redox dye releaser, a dye image-receiving layer, and a transparent cover sheet which is located over the layer outermost from the support and contains an oxidant having an electrode potential from .apprx.200 to 1000 mV vs. a standard calomel electrode at a pH of .apprx.5 to .apprx.6. The oxidant is capable of oxidizing the electron transfer agent, and its reduced form is incapable of reducing the pos. redox dye releaser. Thus, an integral imaging-receiving element was comprised of a photosensitive element consisting of a blue-sensitive neg. working Ag (Br,I) emulsion containing a yellow pos. working redox dye releaser, a reducing agent and an inhibitor, and a cover sheet comprising an acid layer and a layer containing phenyltrichloroquinone oxidant and a timing layer. The element after exposure and development provided an image with improved Dmin stability.

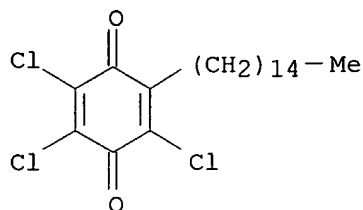
IT **42580-16-5**

RL: USES (Uses)

(photog. redox dye-releasing image transfer system with cover sheet containing)

RN 42580-16-5 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5-trichloro-6-pentadecyl- (9CI) (CA INDEX NAME)



IC G03C001-40; G03C005-54

NCL 430214000

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 127-65-1 128-08-5 937-14-4 2154-68-9 2226-96-2 4399-80-8
7403-36-3 7631-99-4, uses and miscellaneous 7681-55-2 7775-09-9
7789-38-0 7790-28-5 14691-88-4 **42580-16-5** 88185-91-5

RL: USES (Uses)

(photog. redox dye-releasing image transfer system with cover sheet containing)

L48 ANSWER 3 OF 4 HCA COPYRIGHT 2004 ACS on STN

80:145792 Chlorinated ballasted quinones. Anderson, Albert E., Jr.; Salminen, Ilmari F. Def. Publ. U. S. Pat. Off. T US 917001 19731204, 7 pp. (English). CODEN: USXXBN. APPLICATION: US 1971-204295 19711202.

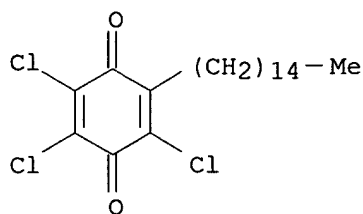
AB Chlorination of 4-amino-3-pentadecylphenol or 3-pentadecyl-p-benzoquinone in 70-90% aqueous AcOH 24-36 hr at 108° gave 2,3,6-trichloro-5-pentadecyl-p-benzoquinone.

IT **42580-16-5P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 42580-16-5 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5-trichloro-6-pentadecyl- (9CI) (CA INDEX NAME)



IC C07C
 NCL 260396000R
 CC 25-16 (Noncondensed Aromatic Compounds)
 IT **42580-16-5P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

L48 ANSWER 4 OF 4 HCA COPYRIGHT 2004 ACS on STN

79:47827 Color diffusion transfer photography utilizing hydroquinones which provide dye image materials upon oxidation in alkaline conditions. Anderson, Albert E.; Lum, Kin Kwong (Eastman Kodak Co.). U.S. US 3725062 19730403, 14 pp. (English). CODEN: USXXAM. APPLICATION: US 1971-160062 19710706.

GI For diagram(s), see printed CA Issue.

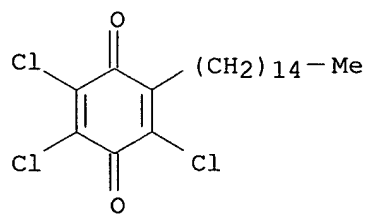
AB Color diffusion-transfer photog. process which employ dye image providing materials which are alkali-cleavable upon oxidation to release a dye or dye precursor which diffuses into the image-receiving layer are described. Compds. useful in this process are hydroquinones (I; R = H or a hydrolyzable moiety; R2 = a photog. inert organic ballasting group of such mol. size and configuration as to render the alkali cleavable compound nondiffusible during development in an alkaline processing composition; R3 = a dye

or dye precursor; Q = S, or o; n,m = 1,3). Thus, a single layer light-sensitive element is prepared by dissolving tetrakis[p-(phenylazo)phenoxy]hydroquinone 0.3 g in diethylauramide 0.6 ml and 2-methyltetrahydrofuran 3.0 ml. This solution is then dispersed in aqueous gelatin 15.5 ml containing 5% triisopropyl naphthalenesulfonate 1 ml and a AgBr-gelatin emulsions 3 ml containing 7.5% aqueous saponin 1 ml added. The emulsion is coated on a support at 32 ± 10^{-4} mole Ag/ft², exposed to a graduated d. multicolor test object combined with a receptor sheet and processed with an alkaline processing solution for 60 sec at 24° to give a neg. yellow dye image.

IT **42580-16-5P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 42580-16-5 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5-trichloro-6-pentadecyl- (9CI) (CA INDEX NAME)



IC G03C
NCL 096003000
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)
IT 42580-14-3P 42580-15-4P **42580-16-5P** 42580-17-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

=> d que stat 192

L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON TETRACHLOROBENZOQUINONE/CN
L45 4067 SEA FILE=HCA ABB=ON PLU=ON L11
L49 13530 SEA FILE=HCA ABB=ON PLU=ON THERMOGRAPH? OR THERMOG OR
ELECTROTHERMOGRAPH? OR PHOTOTHERMOGRAPH? OR (ELECTRO OR
PHOTO) (A) (THERMOG OR THERMOGRAPH?) OR THERMAL(2A) COPY? OR (IR
OR INFRARED#) (2A) COPY?
L62 134861 SEA FILE=HCA ABB=ON PLU=ON IMAGING
L75 17 SEA FILE=HCA ABB=ON PLU=ON L49 AND L45
L92 5 SEA FILE=HCA ABB=ON PLU=ON L75 AND L62

=> d 192 1-5 cbib abs hitstr hitind

L92 ANSWER 1 OF 5 HCA COPYRIGHT 2004 ACS on STN

130:117363 Thermally imageable monochrome digital proofing product with high contrast and fast photospeed. Dessauer, Rolf; Caspar, Jonathan V. (E. I. Du Pont de Nemours & Co., USA). U.S. US 5858583 A 19990112, 19 pp. (English). CODEN: USXXAM. APPLICATION: US 1997-888266 19970703.

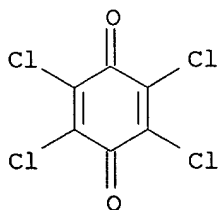
AB Novel thermally imageable monochrome product compns., elements, and processes are disclosed. These compns. and elements characteristically have high contrast and fast **imaging** speeds. The thermally imageable compns. of this invention comprise (a) at least one hexaarylbiimidazole compound, (b) at least one leuco dye, (c) at least one acid-generating compound, (d) a polymeric binder, (e) optionally at least one UV stabilizer and/or at least one inhibitor of color formation, and, in certain embodiments, (f) at least one near IR-absorbing dye. These compns. have the propensity for affording, upon thermal **imaging**, highly colored images having high optical d. values. At the same time, background color is low in preferred compns. even after extensive exposure to ambient light. These compns. can be imagewise heated to effect color formation (i.e., generation of an image) or, in case of compns. containing at least one near IR-absorbing dye, can be imagewise exposed to near IR radiation from a laser or other device to effect color formation (i.e., generation of an image).

IT **118-75-2**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(thermally imageable monochrome digital proofing compns. containing hexaarylbiimidazoles, leuco dyes and)

RN 118-75-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX NAME)



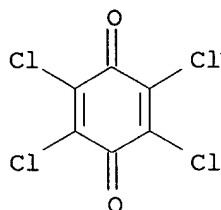
- IC ICM G03C001-675
ICS G03C001-705; G03C001-73; G03C005-58
- NCL 430017000
- CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **photothermog imaging** compn IR color proof;
thermog imaging compn IR color proof;
hexaarylbiimidazole leuco dye **photothermog imaging** compn
- IT **Photothermographic copying**
(IR-sensitive thermally imageable monochrome digital proofing compns. containing hexaarylbiimidazoles and leuco dyes)
- IT **Thermographic copying**
(thermally imageable monochrome digital proofing compns. containing hexaarylbiimidazoles and leuco dyes)
- IT 88-24-4, 2,2'-Methylenebis[6-(1,1-dimethylethyl)-4-ethylphenol] 92-43-3
118-75-2, uses 119-47-1, 2,2'-Methylenebis[6-(1,1-dimethylethyl)-4-methylphenol] 128-37-0, uses 131-54-4, 4,4'-Dimethoxy-2,2'-dihydroxybenzophenone 131-55-5, 2,2',4,4'-Tetrahydroxybenzophenone 611-91-6 630-25-1 1707-67-1 3194-55-6 3710-84-7 5496-71-9 6542-67-2 17025-47-7 38615-39-3, trans-3-Hydroxy-2-(p-diethylaminobenzyl)indanone 62354-98-7, PDBS-80 88878-49-3 95283-23-1 128433-68-1 219617-47-7, 2,2'-Dihydroxy-4,4'-dimethoxy-5,5'-di-tert-butylbenzophenone
RL: TEM (Technical or engineered material use); USES (Uses)
(thermally imageable monochrome digital proofing compns. containing hexaarylbiimidazoles, leuco dyes and)
- L92 ANSWER 2 OF 5 HCA COPYRIGHT 2004 ACS on STN
- 94:55887 Electrically activated recording material. Reithel, Raymond F. (Eastman Kodak Co., USA). U.S. US 4201583 19800506, 15 pp. Division of U.S. Ser. No. 858,780. (English). CODEN: USXXAM. APPLICATION: US 1978-961819 19781117.
- AB The speed of a charge-sensitive recording material having an ohmic resistivity of $\geq 1 + 10^{10} \Omega\text{-cm}$ and composed of a 1st elec. conducting layer in association with a photoconductor layer, an elec. activated recording layer containing an image-forming combination of an organic,
heavy metal salt oxidizing agent with a reducing agent and a binder, and a 2nd elec. conducting layer is increased by addition of ≥ 1 electron acceptor selected from anthraquinone, anthraquinone derivs., phthalaldehyde, tetrachlorophthalonitrile, tetrachlorophthalic anhydride, p-chloranil, $\alpha, \alpha, \alpha, \alpha', \alpha', \alpha'$ -hexachloro-p-xylene, and cobaltihexaamine trifluoroacetate. Thus, a composition containing
Ag behenate 4.2, behenic acid 2.3, 1-(2H)-phthalazinone 1.0, Butvar B-76 30.0 g, and anthraquinone (I) 0.05 mol/mol Ag behenate was ball-milled for 24 h and a composition containing
2,2'-methylenebis(6-tert-butyl-4-methylphenol)
3.0, Bulvar B-76 20.0, and HgCl₂ 0.01 g added. This composition was then coated on a baryta coated support, dried, overcoated with a 1.0% cellulose triacetate solution in MeOH:CH₂Cl₂ (1:9), and the resulting material then imagewise exposed for 40 s at 5.1 ft-candles in an elec. field in a recording arrangement using an elec. conductive platen, the **imaging** material support side down, an air gap, and a PbO photoconductor on a Ni-plated transparent support and then heated 30 s at 100° to show a speed 2-fold greater than a I-free control.
- IT **118-75-2**, uses and miscellaneous

RL: USES (Uses)

(**photothermog.** materials containing, elec. activatable, with improved speed)

RN 118-75-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX NAME)



IC G03C005-00

NCL 430097000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST elec activated **photothermog** material; charge sensitive **photothermog** material; speed charge sensitive **photothermog** material; electron acceptor **photothermog** speed

IT **Photothermography**
(elec. activatable materials for, with elec. conducting layer containing electron acceptor)

IT Radiography
(elec. activatable **photothermog.** materials for)

IT Phenols, uses and miscellaneous

RL: USES (Uses)~

(**photothermog.** materials containing, elec. activatable)

IT Electron acceptors
(**photothermog.** materials containing, elec. activatable, with improved speed)

IT Reductones
(**photothermog.** materials containing, of elec. activatable)

IT Vinyl acetal polymers

RL: USES (Uses)

(butyrals, **photothermog.** material containing, elec. activatable)

IT 112-85-6 119-39-1 119-47-1 2489-05-6

RL: USES (Uses)

(**photothermog.** material containing, elec. activatable)

IT 10234-72-7 13494-80-9D, compds. 74893-80-4D, derivs.

RL: USES (Uses)

(**photothermog.** materials containing, elec. activatable)

IT 68-36-0 84-65-1 106-51-4, uses and miscellaneous 117-08-8

118-75-2, uses and miscellaneous 643-79-8 1780-40-1

1953-99-7 2381-23-9 2958-87-4 4025-69-8 59561-55-6 67453-22-9

RL: USES (Uses)

(**photothermog.** materials containing, elec. activatable, with improved speed)

L92 ANSWER 3 OF 5 HCA COPYRIGHT 2004 ACS on STN

90:195590 Radiation-sensitive **imaging** material. Tsuboi, Tomasa; Tamura, Hiroshi; Suzuki, Yoshiaki; Nagata, Masataka (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 53129028 19781110 Showa, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1977-44347 19770418.

AB An organic oxidizing agent is added to a thermal development-type radiation-sensitive **imaging** material containing a binder, a Co(III) complex, and a polydentate (≥ 2) chelating compound having a

conjugated double bond to reduce thermal fog formation. Thus, [Co(NH₃)₆](CF₃CO₂)₃ 617 mg was dissolved in an 8% poly(vinyl butyral) solution (in EtOH) 28 g and 1-(2-pyridylazo)-2-naphthol 168 and 2-tert-butyl-9,10-anthraquinone 197 mg were dissolved in an 8% poly(vinyl butyral) solution (in EtOH) 28 g. Then 3 g each of the above solns. were mixed, a 2% o-iodosobenzoic acid solution (in EtOH) 0.5 mL was added to the mixture, and the resulting solution was coated on a poly(ethylene terephthalate) film support to give a photoimaging material. The film was sensitometrically exposed and developed to give a fog of 0.10 vs. 0.24 for a control without the iodosobenzoic acid.

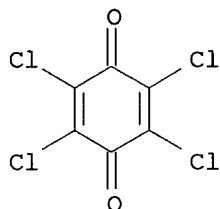
IT **118-75-2**, uses and miscellaneous

RL: USES (Uses)

(photosensitive compns. containing cobalt(III) complex, polydentate chelating agent and, for **photothermog.** materials)

RN 118-75-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX NAME)



IC G03C001-72

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST **photothermog** cobalt complex oxidizing agent; thermal development **imaging** oxidizing agent

IT **Photothermography**

(photosensitive compns. containing cobalt(III) complex, polydentate chelating agent and organic oxidizing agent for)

IT 84-47-9 85-85-8 53626-49-6

RL: USES (Uses)

(photosensitive compns. containing cobalt(III) complex, organic oxidizing agent and, for **photothermog.** materials)

IT 79-15-2 84-58-2 117-08-8 **118-75-2**, uses and miscellaneous

128-08-5 304-91-6 694-59-7

RL: USES (Uses)

(photosensitive compns. containing cobalt(III) complex, polydentate chelating agent and, for **photothermog.** materials)

IT 14523-20-7 15336-12-6 21679-46-9 59561-60-3 59561-65-8

RL: USES (Uses)

(photosensitive compns. containing polydentate chelating agent, organic oxidizing agent and, for **photothermog.** materials)

L92 ANSWER 4 OF 5 HCA COPYRIGHT 2004 ACS on STN

89:120742 Electrically activated recording material and process. Reithel, Raymond F. (UK). Research Disclosure, 167, 29-31 (No. 16724) (English) 1978. RD 167024 19780310. CODEN: RSDSBB. ISSN: 0374-4353. PRIORITY: RD 1978-167024 19780310.

AB An elec. charge-sensitive **imaging** element having increased speed is comprised of a support, an electroconducting layer, a photoconductive layer, an elec. activated **imaging** layer comprised of an organic heavy metal salt oxidizing agent, a reducing agent, and an electron acceptor, and a 2nd electroconducting layer. The **imaging** element has a resistivity $\geq 10^{10}$ Ω -cm. The electron acceptor

is selected from anthraquinone, phthalaldehyde, tetrachlorophthalonitrile, tetrachlorophthalic anhydride, p-chloranil, $\alpha,\alpha,\alpha,\alpha$ -hexachloro-p-xylene, and related compds. Thus, an **imaging** composition prepared from Ag behenate, behenic acid, phthalazinone, 2,2'-methylenebis(6-tert-butyl-4-methylphenol), anthraquinone, and poly(vinyl butyral) was coated on a baryta-coated paper support. A photoconductive film was prepared by depositing PbO on a Ni-coated transparent poly(ethylene terephthalate) film support. An elec. charge-sensitive **imaging** element was obtained by arranging an electroconducting metal platen, the **imaging** composition-coated paper, and the photoconductive film in sequence. The photoconductive layer was imagewise exposed to a W light source while an elec. field was established across the **imaging** and photoconductive layers. The **imaging** paper was then separated from the photoconductive film and heated at 85° to produce a visible image with twice the speed of an anthraquinone-free control.

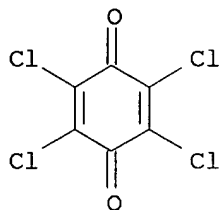
IT 118-75-2, uses and miscellaneous

RL: USES (Uses)

(image-forming compns. containing silver behenate and, for elec. charge-sensitive **imaging** elements)

RN 118-75-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX NAME)



CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT **Photothermography**

(electro-, using photoconductive layer in conjunction with organic heavy metal salt-containing image-forming layer)

IT 68-36-0 84-65-1 106-51-4, uses and miscellaneous 118-75-2,
uses and miscellaneous 643-79-8 1780-40-1 1953-99-7 2381-23-9
2958-87-4 4025-69-8 59561-55-6 67453-22-9

RL: USES (Uses)

(image-forming compns. containing silver behenate and, for elec. charge-sensitive **imaging** elements)

IT 119-39-1 119-47-1 2489-05-6

RL: USES (Uses)

(image-forming compns. containing, for elec. charge-sensitive **imaging** elements)

L92 ANSWER 5 OF 5 HCA COPYRIGHT 2004 ACS on STN

84:172159 Heat development process utilizing a photosensitive composition containing a halogenated polymer and a strong organic electron acceptor. Limburg, William W.; Teuscher, Leon A. (Xerox Corp., USA). U.S. US 3930858 19760106, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1973-411628 19731101.

AB **Photothermog. imaging** compns. are comprised of a mixture of a strong organic electron acceptor having π electron systems either on or conjugated with 2, 3, or 4 electron withdrawing groups and a halogenated polymer having halogen atoms on alternating C atoms. Upon exposure to actinic radiation rapid dehydrohalogenation of the polymer

occurs in the exposed areas, and development of the visible image is obtained by heating. Thus, repptd. and inhibitor-free poly(vinyl chloride) 99% in tetrahydrofuran was mixed with 1% tetracyanoethylene and coated on a microscope slide. Upon exposure to short-wavelength 10 W input uv mineral light for 10 min followed by heating to a temperature of 120° by means of a heat gun for 5 min a light brown visible image was formed in the exposed areas.

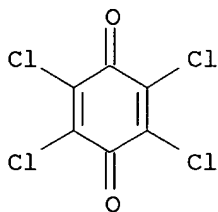
IT 118-75-2, uses and miscellaneous

RL: USES (Uses)

(**photothermog. imaging** composition containing poly(vinyl chloride) and)

RN 118-75-2 HCA

CN 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro- (9CI) (CA INDEX NAME)



IC G03C

NCL 096048000HD

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST **photothermog** dehydrohalogenation polymer; electron acceptor

photothermog polymer

IT **Photothermography**

(light-sensitive composition for, containing electron acceptor and halogenated

polymer, dehydrohalogenation in)

IT 118-75-2, uses and miscellaneous 670-54-2, uses and miscellaneous 1518-16-7

RL: USES (Uses)

(**photothermog. imaging** composition containing poly(vinyl chloride) and)

IT 9002-86-2 9011-06-7 25951-54-6

RL: USES (Uses)

(**photothermog. imaging** composition containing tetracyanoethylene and)

=> d que stat 193

L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON 106-51-4/RN

L47 11723 SEA FILE=HCA ABB=ON PLU=ON L13

L49 13530 SEA FILE=HCA ABB=ON PLU=ON THERMOGRAPH? OR THERMOG OR ELECTROTHERMOGRAPH? OR PHOTOTHERMOGRAPH? OR (ELECTRO OR PHOTO) (A) (THERMOG OR THERMOGRAPH?) OR THERMAL(2A) COPY? OR (IR OR INFRARED#) (2A) COPY?

L62 134861 SEA FILE=HCA ABB=ON PLU=ON IMAGING

L77 55 SEA FILE=HCA ABB=ON PLU=ON L49 AND L47

L93 18 SEA FILE=HCA ABB=ON PLU=ON L77 AND L62

=> d 193 1-18 cbib abs hitstr hitind

L93 ANSWER 1 OF 18 HCA COPYRIGHT 2004 ACS on STN

101:63702 Photosensitive and heat sensitive **imaging** composition.

(Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58088743 A2 19830526 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-187119 19811120.

AB A photosensitive and heat-sensitive composition which forms color by UV irradiation

and is visible light- and heat-fixable is comprised of (a) an aryldiazonium salt which generates a Lewis acid (e.g., ZnCl_2 or BF_3) upon irradiation by UV light, (b) a leuco dye which forms color with the above Lewis acid, (c) a quinone compound which generates a reducing agent (e.g., hydroquinone) upon irradiation by visible light in the presence of a H-donating substance [e.g., poly(ethylene glycol)], (d) a H-donor which donates reactive H atom to the quinone compound upon irradiation by visible light, and (e) a Co(III) complex which generates a basic substances (e.g., NH_3 or an amine) to react in a chain reaction with the reducing agent generated in (c) upon heating and consequently suppressing the action of the Lewis acid generated in (a). **Imaging** is effected by placing an original on the above photosensitive material, irradiating with visible light, heating, and then irradiating the whole surface of the photosensitive material with UV light to provide a pos. image.

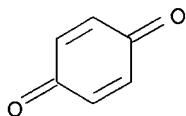
IT 106-51-4, uses and miscellaneous

RL: USES (Uses)

(photosensitive and heat-sensitive **imaging** compns. containing)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72; G03C001-52

ICA B41M005-18

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photosensitive heat sensitive **imaging** compn; diazo leuco dye color **imaging**; **photothermog** compn light heat fixing

IT **Photothermography**

(photosensitive and heat-sensitive compns. for, containing diazonium salt and leuco dye and quinone and hydrogen donor and cobalt complex)

IT 84-11-7 106-51-4, uses and miscellaneous 398-69-6 673-48-3 1552-42-7 5233-95-4 9004-57-3 21121-62-0 25322-68-3 29512-49-0 59561-55-6

RL: USES (Uses)

(photosensitive and heat-sensitive **imaging** compns. containing)

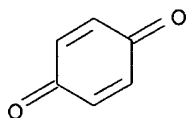
L93 ANSWER 2 OF 18 HCA COPYRIGHT 2004 ACS on STN

95:52678 **Photothermographic imaging** process. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56017349 19810219 Showa, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-94123 19790723.

AB **Photothermog.** materials containing sensitizing-anion-free Co(III) complex, a photoreducing agent which absorbs ≥ 300 nm light, and H donor are imagewise exposed to a visible light and corona discharge-treated simultaneously and heated to form visible images. Thus, an Al support was coated with a composition containing cellulose acetate, 1-(2-pyridylazo)-2-naphthol, 2-isopropoxy-1,4-naphthoquinone, and $[\text{Co}(\text{NH}_3)_6](\text{CF}_3\text{CO}_2)_3$ to give a **photothermog.** sheet. The sheet was imagewise exposed to a W lamp while it was treated with -6 kV corona

discharge, and heated at 130° to form high optical d. images.

IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (photothermog. imaging sheet containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



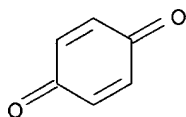
IC G03C005-00; G03C001-72
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST photothermog process cobalt complex
 IT Photothermography
 (imaging processes in)
 IT 85-85-8 106-51-4, uses and miscellaneous 9004-35-7 9004-36-8
 25322-68-3 53626-49-6 55700-12-4 59561-55-6
 RL: USES (Uses)
 (photothermog. imaging sheet containing)

L93 ANSWER 3 OF 18 HCA COPYRIGHT 2004 ACS on STN

95:33441 Photothermographic photosensitive compositions. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56005541 19810121 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-81726 19790627.

AB Photothermog. photosensitive compns. contain a Co(III) complex, a photoreducing agent which forms a redox couple with the Co complex under light exposure, a H donor, and a ZnO powder. The photothermog. compns. exhibit high sensitivity and give high-quality images. Thus, a film support was coated with a composition containing ZnO, cellulose acetate butyrate, [Co(NH₃)₆](CF₃CO₂)₃, polyethylene glycol, and p-benzoquinone to give a photothermog. imaging sheet. The sheet was

imagewise exposed and heated at 150° to give a high-quality copy.
 IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (photothermog. photosensitive compns. containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



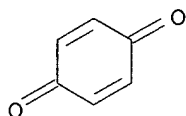
IC G03C001-72; G03C001-52
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST photothermog film cobalt complex
 IT Photothermography
 (photosensitive compns. containing cobalt complex salts for)
 IT 106-51-4, uses and miscellaneous 1314-13-2, uses and
 miscellaneous 9004-36-8 25322-68-3 59561-55-6
 RL: USES (Uses)
 (photothermog. photosensitive compns. containing)

L93 ANSWER 4 OF 18 HCA COPYRIGHT 2004 ACS on STN

95:33433 Photothermographic imaging materials. (Ricoh Co.,

Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56001932 19810110 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-78344 19790620.

- AB A photoactivation type thermal recording sheet is composed (1) a support, (2) a layer containing a Co(III) complex, a photoreducing agent, and a H donor, (3) a layer containing a Co(III) complex and a binder, and (4) a layer containing a photooxidizing agent, a color former which gives color upon oxidation, and an acid which promotes the coloration. Thus, a polyester film support was coated with a composition containing [Co(NH₃)₆](CF₃CO₂)₃, p-benzoquinone, and cellulose acetate butyrate, then coated with a composition containing cellulose acetate butyrate and [Co(NH₃)₆](CF₃CO₂)₃, and coated with a composition containing
- bis(4-diethylamino-o-tolyl)(4-diethylaminophenyl)methane, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, p-toluenesulfonic acid, polyethylene glycol, and cellulose acetate butyrate to give a photoactivation type thermal recording film. The film was imagewise exposed to a W lamp, heated at 150°, and uniformly exposed to give pos. images (blue, D_{max} = 1.58, D_{min} = 0.12).
- IT **106-51-4**, uses and miscellaneous
RL: USES (Uses)
(**photothermog.** materials containing, multilayer)
- RN 106-51-4 HCA
- CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IC G03C001-72; G03C001-52
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
- ST **photothermog** film multilayer cobalt complex
- IT **Photothermography**
(light-fixing type multilayer photosensitive sheets for, containing cobalt complexes)
- IT 84-11-7 **106-51-4**, uses and miscellaneous 1707-68-2 9004-36-8
25322-68-3 59561-55-6 68582-45-6
RL: USES (Uses)
(**photothermog.** materials containing, multilayer)

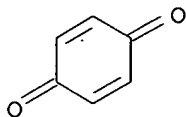
L93 ANSWER 5 OF 18 HCA COPYRIGHT 2004 ACS on STN

95:15945 **Photothermographic** materials. (Ricoh Co., Ltd., Japan).
Jpn. Kokai Tokkyo Koho JP 55166639 19801225 Showa, 22 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1979-74745 19790615.

- AB A support is coated with a layer containing a Co(III) complex, a photoreducing agent, and a proton donor, and subsequently coated with a composition containing an
acidic salt of a leucoaminotriarylmethane dye, a photooxidizing agent, and SiO₂ to give a **photothermog. imaging** sheet. The **photothermog.** sheet exhibits excellent image fixability and it is useful for either pos. or neg. image formation. Thus, a film support was coated (.apprx. 7 μ) with a composition composed of [Co(NH₃)₆](CF₃CO₂)₃ 0.5, p-benzoquinone 0.24, polyethylene glycol 0.8, cellulose acetate butyrate 1.0 g and an acetone-iso-Pr alc. (9:1) mixture 10 mL. Subsequently, a composition containing bis(4-diethylamino-o-tolyl)-4-diethylaminophenylmethane, SiO₂, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, p-toluenesulfonic acid, polyethylene glycol, and cellulose acetate butyrate was coated on the film to give a **photothermog.** film. The film was imagewise exposed to a W lamp, then heated at 130°,

and uniformly exposed to form blue pos. images whose optical d. decreased with increasing W lamp exposure time.

IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (photothermog. photosensitive materials containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



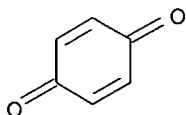
IC G03C001-72; G03C001-54; G03C001-56
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST photothermog material cobalt complex
 IT Photothermography
 (photosensitive materials containing cobalt complex, photoreducing agent, and photooxidizing agent for)
 IT 84-11-7 104-15-4, uses and miscellaneous 106-51-4, uses and miscellaneous 1707-68-2 3002-18-4 7631-86-9, uses and miscellaneous 9004-36-8 25322-68-3 59561-55-6 68582-45-6
 RL: USES (Uses)
 (photothermog. photosensitive materials containing)

L93 ANSWER 6 OF 18 HCA COPYRIGHT 2004 ACS on STN

95:15934 Photosensitive **imaging** compositions. (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 55159437 19801211 Showa, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-66083 19790530.

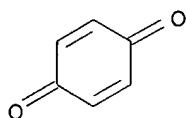
AB Photoimaging compns. are composed of (1) a photooxidizing agent which forms an oxidizing agent upon UV light exposure, (2) a leuco dye which forms a colored dye upon reaction with the oxidizing agent, (3) a photoreducing agent which forms a reducing agent when exposed to visible light, (4) a hydrogen donor which gives H to the photoreducing agent, (5) a cobalt complex salt, and (6) a spectral sensitizer dye. The photoimaging compns. have high sensitivity and give pos. images. Thus, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenyl biimidazole 10, 4,4',4''-tris(diethylamino)-2,2'-dimethyltriphenylmethane 10, p-benzoquinone 30, polyethylene glycol 500, and [Co(NH3)6](CF3CO2)3 12.5 mg were dissolved in an acetone-BuOH (9:1) mixture 10 mL. Sep., chlorophyll 3 mg was dissolved in an acetone-BuOH-H2O (9:1:1) mixture 11 mL. Equal vols. of the 2 solns. were then mixed and the mixture was coated on a paper support to give a photosensitive sheet. The photosensitive sheet was imagewise exposed to a visible light, heated at 160°, and exposed uniformly to an UV light to give blue pos. images.

IT 106-51-4, uses and miscellaneous
 RL: USES (Uses)
 (photoimaging compns. containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72; G03C005-00

- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST photoimaging sheet photofixing type; photoredox **imaging** sheet
 IT **Photothermography**
 (photosensitive compns. for, photofixing type)
 IT 85-85-8 **106-51-4**, uses and miscellaneous 1707-68-2
 14459-29-1 25322-68-3 59561-55-6 68582-45-6
 RL: USES (Uses)
 (photoimaging compns. containing)
- L93 ANSWER 7 OF 18 HCA COPYRIGHT 2004 ACS on STN
 94:93613 **Photothermographic** sets. (Ricoh Co., Ltd., Japan). Jpn.
 Kokai Tokkyo Koho JP 55113038 19800901 Showa, 4 pp. (Japanese). CODEN:
 JKXXAF. APPLICATION: JP 1979-21741 19790226.
- AB A **photothermog.** copying set is composed of (1) a photosensitive
 sheet containing thermally sublimable aromatic compound having photooxidizable
 OH group(s) and (2) an image receptor sheet containing a Co (III) complex salt
 and a quinone in the recording layer. Thus, a composition containing
 4-methoxynaphthol 0.05, erythrosine 0.01, and Et cellulose 2.0 g was
 coated on a polyester film support to give a photosensitive film. Sep., a
 paper support was coated with a composition containing [Co(NH₃)₆](CF₃CO₂)₃ 0.1,
 p-benzoquinone 0.1, and Et cellulose 1.0 g to give a receptor paper. The
 photosensitive film was imagewise exposed, then contacted with the
 receptor paper, and heated at 130° to form images (D_{max} = 0.8) on
 the receptor paper.
- IT **106-51-4**, uses and miscellaneous
 RL: USES (Uses)
 (thermal sublimation transfer type **photothermog.** image
 receptor sheet containing)
- RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IC G03C001-72; B41M005-18
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST **photothermog** photosensitive film naphthol; receptor sheet
photothermog copying; cobalt complex receptor **photothermog**
 ; transfer thermal **imaging** set
 IT Transfers
 (imaging by, of naphthal derivs., photosensitive
 sheet-receptor sheet combinations for)
- IT **Photothermography**
 (thermal sublimation transfer type, photosensitive film and receptor
 sheet for)
- IT 84-85-5 **106-51-4**, uses and miscellaneous 16423-68-0
 59561-55-6
 RL: USES (Uses)
 (thermal sublimation transfer type **photothermog.** image
 receptor sheet containing)
- L93 ANSWER 8 OF 18 HCA COPYRIGHT 2004 ACS on STN
 94:55887 Electrically activated recording material. Reithel, Raymond F.
 (Eastman Kodak Co., USA). U.S. US 4201583 19800506, 15 pp. Division of
 U.S. Ser. No. 858,780. (English). CODEN: USXXAM. APPLICATION: US

1978-961819 19781117.

AB The speed of a charge-sensitive recording material having an ohmic resistivity of $\geq 1 + 10^{10} \Omega\text{-cm}$ and composed of a 1st elec. conducting layer in association with a photoconductor layer, an elec. activated recording layer containing an image-forming combination of an organic,

heavy metal salt oxidizing agent with a reducing agent and a binder, and a 2nd elec. conducting layer is increased by addition of ≥ 1 electron acceptor selected from anthraquinone, anthraquinone derivs., phthalaldehyde, tetrachlorophthalonitrile, tetrachlorophthalic anhydride, p-chloranil, $\alpha, \alpha, \alpha, \alpha', \alpha', \alpha'$ -hexachloro-p-xylene, and cobaltihexaamine trifluoroacetate. Thus, a composition

containing

Ag behenate 4.2, behenic acid 2.3, 1-(2H)-phthalazinone 1.0, Butvar B-76 30.0 g, and anthraquinone (I) 0.05 mol/mol Ag behenate was ball-milled for 24 h and a composition containing

2,2'-methylenebis(6-tert-butyl-4-methylphenol)

3.0, Bulvar B-76 20.0, and HgCl_2 0.01 g added. This composition was then coated on a baryta coated support, dried, overcoated with a 1.0% cellulose triacetate solution in $\text{MeOH}:\text{CH}_2\text{Cl}_2$ (1:9), and the resulting material then imaged exposed for 40 s at 5.1 ft-candles in an elec. field in a recording arrangement using an elec. conductive platen, the **imaging** material support side down, an air gap, and a PbO photoconductor on a Ni-plated transparent support and then heated 30 s at 100° to show a speed 2-fold greater than a I-free control.

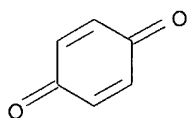
IT **106-51-4**, uses and miscellaneous

RL: USES (Uses)

(**photothermog.** materials containing, elec. activatable, with improved speed)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C005-00

NCL 430097000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST elec. activated **photothermog** material; charge sensitive

photothermog material; speed charge sensitive **photothermog** material; electron acceptor **photothermog** speed

IT **Photothermography**

(elec. activatable materials for, with elec. conducting layer containing electron acceptor)

IT Radiography

(elec. activatable **photothermog.** materials for)

IT Phenols, uses and miscellaneous

RL: USES (Uses)

(**photothermog.** materials containing, elec. activatable)

IT Electron acceptors

(**photothermog.** materials containing, elec. activatable, with improved speed)

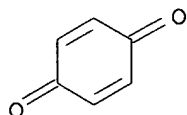
IT Reductones

(**photothermog.** materials containing, of elec. activatable)

IT Vinyl acetal polymers

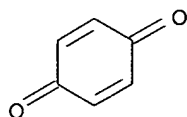
RL: USES (Uses)

- (butyrals, **photothermog.** material containing, elec. activatable)
 IT 112-85-6 119-39-1 119-47-1 2489-05-6
 RL: USES (Uses)
- (**photothermog.** material containing, elec. activatable)
 IT 10234-72-7 13494-80-9D, compds. 74893-80-4D, derivs.
 RL: USES (Uses)
- (**photothermog.** materials containing, elec. activatable)
 IT 68-36-0 84-65-1 **106-51-4**, uses and miscellaneous 117-08-8
 118-75-2, uses and miscellaneous 643-79-8 1780-40-1 1953-99-7
 2381-23-9 2958-87-4 4025-69-8 59561-55-6 67453-22-9
 RL: USES (Uses)
- (**photothermog.** materials containing, elec. activatable, with improved speed)
- L93 ANSWER 9 OF 18 HCA COPYRIGHT 2004 ACS on STN
 94:22944 Electrically activated recording material. Reithel, Raymond F. (Eastman Kodak Co., USA). U.S. US 4201591 19800506, 14 pp. Division of U.S. Ser. No. 858,780. (English). CODEN: USXXAM. APPLICATION: US 1978-961822 19781117.
- AB A charge-sensitive, elec. activated recording composition is comprised of a redox image-forming composition comprised of an organic Ag salt oxidizing agent and a reducing agent selected from derivs. of 3-pyrazolidone, phenol, reductone, and sulfonamidophenol and an organic electron acceptor selected from anthraquinone derivs., phthalaldehyde, tetrachlorophthalonitrile, tetrachlorophthalic anhydride, p-chloroanil, α,α,α .alph a.', α' , α' -hexachloro-p-xylene, and hexaamminecobalt tris(trifluoroacetate). Thus, a composition comprised of Ag behenate 4.2, behenic acid 2.3, 1-(2H)-phthalazinone 1.0, 2,2'-methylenebis(6-tert-butyl-4-methylphenol) 3.0, a 5% solution of poly(vinyl butyral) in a 1:1 Me₂CO-PhMe mixed solvent 50.0 g, and anthraquinone 0.05 mol/mol Ag behenate was coated at a 3 mil thickness on a baryta-coated paper support, dried, overcoated with a 1% solution of cellulose triacetate solution as a 2 mil wet layer, dried, and attached to a metal platen. An elec. activated recording assembly comprised of an elec. conducting support with a PbO photoconducting layer and the above **imaging** plate with an air gap was imagewise exposed to a W light source through a step tablet at 14.5 ft-candles for 40 s, while a high potential elec. field was established across the photoconductive and the **imaging** layers by connecting the conducting support and the metal platen through a power source, and heated for 30 s at 85° to develop an image having a maximum reflection d. of 1.7 and a min. d. of 0.1.
- IT **106-51-4**, uses and miscellaneous
 RL: USES (Uses)
 (electrosensitive image-forming compns. containing organic silver salt, reducing agent and, for electrophotothermog. materials)
- RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



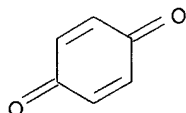
- IC G03C001-10
 NCL 430619000
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST redox compd electrosensitive **imaging** compn; silver salt
 electrosensitive **imaging** compn; pyrazolidone reductant

- electrosensitive **imaging** compn; electrophotothermog
electrosensitive **imaging** compn
- IT **Electrothermography**
Photography, electro-
(electrosensitive image-forming compns., containing organic silver salt,
reducing agent and electron acceptor for)
- IT **Photothermography**
(electro-, electrosensitive image-forming compns. containing organic silver
salt, reducing agent and electron acceptor for)
- IT 68-36-0 84-65-1 106-47-8, uses and miscellaneous **106-51-4**,
uses and miscellaneous 117-08-8 643-79-8 1780-40-1 1953-99-7
2381-23-9 2958-87-4 4025-69-8 59561-55-6 67453-22-9
RL: USES (Uses)
(electrosensitive image-forming compns. containing organic silver salt,
reducing agent and, for electrophotothermog. materials)
- IT 1317-36-8, uses and miscellaneous
RL: USES (Uses)
(photoconductive layer containing, for **electrothermog.** materials
containing electrosensitive image-forming compns. containing organic silver
salt,
reducing agent, and electron acceptor)
- L93 ANSWER 10 OF 18 HCA COPYRIGHT 2004 ACS on STN
92:224288 Heat- and light-sensitive **imaging** materials. Sakuma,
Seiichi; Kunikane, Makoto (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo
Koho JP 55012913 19800129 Showa, 6 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1978-85180 19780714.
- AB A **photothermog. imaging** set is composed of (1) a heat-
and light-sensitive sheet consisting of a support, a precoating layer
which inhibits permeation of a thermally sublimable substance, and a heat-
and light-sensitive layer containing a thermally sublimable naphthol or phenol
derivative which losses its sublimation property upon exposure to light and
(2) a image receptor sheet containing a color former which reacts with the
thermally sublimed naphthol or phenol derivs. to form a color. Thus, a
paper support was coated with a polyamide solution, and then coated with a
composition containing 4-methoxynaphthol, Erythrosine B, and Et cellulose to
give a
heat- and light-sensitive sheet. Sep., another paper support was coated
with a composition containing [Co(NH₃)₆](CF₃CO₂)₃, p-benzoquinone, and
cellulose
acetate butyrate to give a receptor sheet. The heat- and light-sensitive
sheet was imagewise exposed, placed on the receptor sheet, and heated at
120° to give a copy with sharp black images.
- IT **106-51-4**, uses and miscellaneous
RL: USES (Uses)
(**photothermog.** image receptor sheet containing, for images by
thermal sublimation transfer)
- RN 106-51-4 HCA
CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IC G03C001-72; B41M005-18; B41M005-26
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
ST **photothermog** set sublimation transfer

- IT **Photothermography**
(thermal sublimation transfer type, heat- and light-sensitive sheets for)
- IT 62-56-6, uses and miscellaneous 87-69-4, uses and miscellaneous
106-51-4, uses and miscellaneous 14726-58-0 59561-55-6
RL: USES (Uses)
(**photothermog.** image receptor sheet containing, for images by thermal sublimation transfer)
- IT 84-85-5 108-73-6 2123-43-5 16423-68-0
RL: USES (Uses)
(**photothermog.** material containing, for images by thermal sublimation transfer)
- L93 ANSWER 11 OF 18 HCA COPYRIGHT 2004 ACS on STN
91:220310 Heat-sensitive **imaging** materials. Sakuma, Seichi;
Kunikane, Makoto; Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai
Tokkyo Koho JP 54046570 19790412 Showa, 9 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1977-113082 19770920.
- AB Heat-sensitive **imaging** materials contain a substance which
colors or decolors upon reaction with a basic substance and an ammonium
compound which is solid at room temperature The **imaging** is carried out
at a temperature above the temperature at which the ammonium compound releases
- NH3.
Thus, ECR 3, (NH4)2S2O3 3, EtOH 7, and H2O 47 parts were mixed and coated
on a polyester support to give a developer sheet. An imagewise exposed
diaz copying sheet was then contacted with the developer sheet and heated
at 100-120° to develop the images.
- IT **106-51-4**, uses and miscellaneous
RL: USES (Uses)
(heat-sensitive image developing sheet containing, for diazo process)
- RN 106-51-4 HCA
CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IC B41M005-18
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
ST diazo process developer sheet; thermal image developer sheet;
thermog sheet; recording thermal
- IT **106-51-4**, uses and miscellaneous 7783-18-8 9017-80-5
13716-99-9 59561-55-6
RL: USES (Uses)
(heat-sensitive image developing sheet containing, for diazo process)
- L93 ANSWER 12 OF 18 HCA COPYRIGHT 2004 ACS on STN
91:149464 Heat-sensitive **imaging** materials. Sakuma, Seichi;
Kunikane, Makoto; Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai
Tokkyo Koho JP 54046571 19790412 Showa, 5 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1977-113083 19770920.
- AB Heat-sensitive **imaging** materials contain a Co(III) complex salt
which releases an alkaline substance upon reduction and an aquo complex in the
heat-sensitive layer. The heat-sensitive material also contains a
substance which decolors or colors upon reaction with the alkaline substance
in the heat-sensitive layer or its adjacent layer. Thus, a heat-sensitive
composition consisting of [Co(NH3)6] (CF3CO2)3 3, p-benzoquinone 1,

1-nitroso-2-naphthol 1, ZnSO₄·5H₂O (an aquo complex) 5, acetyl cellulose butyrate 10 g, and Me₂CO 100 mL was coated on an Al-laminated polyester support to give a heat-sensitive image-recording material, on which reddish brown images are recorded by joule heat produced by a 30 V stylus.

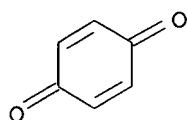
IT **106-51-4**, uses and miscellaneous

RL: USES (Uses)

(**electrothermog.** recording composition containing)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC B41M005-18

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST cobalt complex thermal recording sheet; **electrothermog** recording cobalt complex

IT **Electrothermography**

(heat-sensitive compns. containing cobalt complex and metal aquo-complex for)

IT **106-51-4**, uses and miscellaneous 131-91-9 7782-63-0

9017-80-5 13820-83-2 59561-55-6 71386-13-5

RL: USES (Uses)

(**electrothermog.** recording composition containing)

L93 ANSWER 13 OF 18 HCA COPYRIGHT 2004 ACS on STN

91:132132 **Photothermographic** materials. Yamamuro, Tetsu; Kunikane, Makoto; Sakuma, Seiichi (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 54065519 19790526 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1977-132314 19771104.

AB **Photothermog.** recording materials contain a Co(III) complex, which releases an alkaline substance upon thermal reduction, and a compound, which

forms a radical upon irradiation with light. These **photothermog.** materials exhibit good sensitivity. Also, the imagewise exposed **photothermog.** material can be coupled with another **imaging** material containing a substance which reacts with an alkaline substance to

form a

color (or decolor) and is then heated to form images on both sheets. Thus, [Co(NH₃)₆](ClO₄)₃ 4, CBr₄ 0.5, cellulose acetate butyrate 10, 1-nitroso-2-naphthol 1.0, and Rose Bengal 0.005 g were dissolved in an Me₂CO-MeOH mixture and coated on a polyester film support to give a **photothermog.** film. The **photothermog.** film was then imagewise exposed and heated at 90-120°s to form neg. images. When the imagewise exposed film was coupled with a diazo copying paper and heated, neg. images were obtained on both the film and diazo paper. When the imagewise exposed film was heated with a paper coated with 2,4-diphenyl-6-(β-methyl-3,4-diethoxystyryl)pyrylium fluoroborate, pos. images were obtained on the paper.

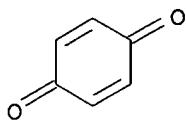
IT **106-51-4**, uses and miscellaneous

RL: USES (Uses)

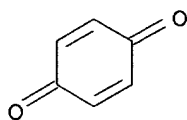
(**photothermog.** photosensitive materials containing)

RN 106-51-4 HCA

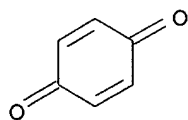
CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST **photothermog** film cobalt complex redn; org halogen compd
photothermog
 IT **Photothermography**
 (photosensitive compns. containing cobalt complex salt and organic bromine compound for)
 IT 558-13-4 613-53-6 7241-13-6 17025-47-7
 RL: USES (Uses)
 (**photothermog**. materials containing cobalt complex salt and)
 IT 13820-83-2
 RL: USES (Uses)
 (**photothermog**. materials containing free-radical forming agent and)
 IT 15742-28-6
 RL: USES (Uses)
 (**photothermog**. materials containing photoradical forming agent and)
 IT 85-85-8 **106-51-4**, uses and miscellaneous 131-91-9 11121-48-5
 16423-68-0
 RL: USES (Uses)
 (**photothermog**. photosensitive materials containing)
 L93 ANSWER 14 OF 18 HCA COPYRIGHT 2004 ACS on STN
 91:132118 Heat-sensitive recording materials. Sakuma, Seiichi; Kunikane, Makoto; Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 54046569 19790412 Showa, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1977-113080 19770920.
 AB Heat-sensitive image-recording materials have a recording layer containing a stable (at room temperature) Co(III) complex and an inorg. reducing agent. Optionally, the inorg. reducing agent is added to a layer adjacent to the recording layer. The heat-sensitive recording materials have good sensitivity and yield clear images. The recording materials can be used for **electrothermog**. recording (i.e. by joule heating) or for electrolytic recording. Thus, [Co(NH₃)₆](CF₃CO₂)₃ 3, p-benzoquinone 1.5, Zn powder 10, cellulose acetate butyrate 10 g, and Me₂CO 100 mL were mixed and coated on an Al-laminated polyester film support to give a heat-sensitive **imaging** sheet on which black images were recorded by using a ball-point stylus at 15 V and 10-150 cm/min. When recording was carried out at 50 V, the recording layer was removed to form transparent images, and the film was heated together with a diazo copying paper to give an image on the diazo copying paper.
 IT **106-51-4**, uses and miscellaneous
 RL: USES (Uses)
 (heat-sensitive **imaging** material containing)
 RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



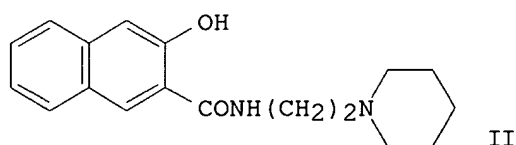
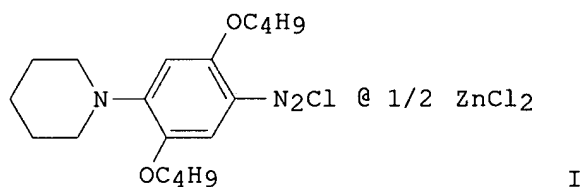
- IC B41M005-18
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST electrorecording heat sensitive sheet; cobalt complex redox
imaging sheet
 IT **Electrothermography**
 (heat-sensitive sheets for, containing cobalt complex and reducing agent)
 IT 7439-95-4, uses and miscellaneous 7440-22-4, uses and miscellaneous
 RL: USES (Uses)
 (heat-sensitive **imaging** material containing cobalt complex and)
 IT **106-51-4**, uses and miscellaneous 130-15-4 1314-98-3, uses and
 miscellaneous
 RL: USES (Uses)
 (heat-sensitive **imaging** material containing)
 IT 7440-66-6, uses and miscellaneous
 RL: USES (Uses)
 (heat-sensitive **imaging** material containing cobalt complex and
 powdered)
 IT 13820-83-2 59561-55-6
 RL: USES (Uses)
 (heat-sensitive **imaging** material containing metal powder and)
 IT 9004-36-8
 RL: USES (Uses)
 (heat-sensitive **imaging** material containing, as binder)
- L93 ANSWER 15 OF 18 HCA COPYRIGHT 2004 ACS on STN
 91:115339 Image recording method. Sakuma, Seiichi; Kunikane, Makoto;
 Yamamuro, Tetsu (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
 54036814 19790317 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
 JP 1977-101903 19770825.
- AB Images are formed by reacting an organic reducing agent in an **imaging**
 layer containing a Co(III) complex salt which generates an alkaline substance
 upon
 reduction The **imaging** materials have excellent storage stability
 and image recording is very simple. Thus, a paper support was coated with
 a composition consisting of [Co(NH₃)₆](CF₃CO₂)₃ 3, p-benzoquinone 1.5, acetyl
 cellulose butyrate 10 g, and Me₂CO 100 mL to give an image-recording
 paper. Then, a 5,8-dichloro-4-methoxynaphthol solution (0.1 mol/L MeOH) was
 used to record (yellow-orange) images on the paper by using
 1-mm-diameter(inner) polyethylene tube. The recorded paper was covered with
 a polyester film (on the recording side), then a com. diazo copying paper
 was contacted on the support side of the recording paper, and the laminate
 was heated (100-120°) to give dark brown images on the recording
 paper and blue images on the diazo copying paper.
- IT **106-51-4**, uses and miscellaneous
 RL: USES (Uses)
 (image recording paper containing)
- RN 106-51-4 HCA
 CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC B41M005-12; C09D011-00
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 IT Recording
Thermography
 (cobalt complex redox, developers containing organic reducing agent for)
 IT **106-51-4**, uses and miscellaneous 131-91-9 13820-83-2
 59561-55-6
 RL: USES (Uses)
 (image recording paper containing)

L93 ANSWER 16 OF 18 HCA COPYRIGHT 2004 ACS on STN
 90:160126 Light- and heat-sensitive copying sets. Saito, Tadashi; Yamamuro, Satoru; Sakai, Kiyoshi; Ohta, Masafumi (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 53077614 19780710 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1976-153949 19761221.

GI



AB Light- and heat-sensitive copying sets are prepared by using (A) a composition consisting of a Co(III) complex, which forms an alkaline substance upon reduction, and an aromatic quinone derivative which combines with the alkaline substance to reduce the Co(III) complex to a Co(II) complex; (B) a photosensitive composition containing a naphthol or phenol derivative which exhibits reducing power; and (C) a composition containing a substance whose color changes upon reaction with the alkaline substance. Preferably the copying sets have the following combinations: (1) a combination of light-sensitive sheet having A- and B-containing layers adjacent to each other and an image recording sheet having a C-containing layer; (2) a combination of a light-sensitive sheet having a B-containing layer and an image recording sheet with a C-containing layer; or (3)

a combination of a photosensitive sheet having a B-containing layer and an **imaging** sheet having a layer which is a mixture of A and C. Imagewise exposure of these sets followed by heating yields copies having dye images. Thus, a polyester film support was coated with a composition consisting of 4-methoxy-1-naphthol 0.01, erythrosine 0.005, Et cellulose 2.5 g, and MeCOEt 25 mL, then coated with a composition consisting of [Co(NH₃)₆](CF₃CO₂)₃ 3, acetylcellulose butyrate 10 g, and Me₂CO 50 mL, and a solution containing p-benzoquinone 1 g (in 50 mL MeOH) was impregnated into

the

Co-complex containing layer to give a light-sensitive sheet. Sep., a paper support was coated with a solution consisting of I 1.5, II 2.0, maleic acid 3, and H₂O 100 g to give an **imaging** sheet. The photosensitive sheet was then imagewise exposed, coupled with the **imaging** sheet, and heated by using heated rollers (100-20°) to give a copy with an image optical d. of 0.95.

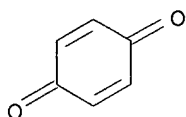
IT 106-51-4, uses and miscellaneous

RL: USES (Uses)

(photosensitive and image-recording compns. containing cobalt(III) complex, naphthol derivs. and, for **photothermog.**)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



IC G03C001-72

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST **photothermog** copying set cobalt complex

IT **Photothermography**

(photosensitive and image-recording compns. containing cobalt(III) complex, aromatic quinone and naphthol derivative for)

IT Quinones

RL: USES (Uses)

(aromatic, photosensitive and image-recording compns. containing cobalt(III) complex, naphthol derivative and, for **photothermog.**)

IT 13820-83-2 14023-85-9 16455-59-7 59561-55-6 60181-08-0

RL: USES (Uses)

(photosensitive and image-recording compns. containing aromatic quinone, naphthol derivative and, for **photothermog.**)

IT 84-85-5 21528-62-1 68945-78-8 69851-52-1

RL: USES (Uses)

(photosensitive and image-recording compns. containing cobalt(III) complex, aromatic quinone and, for **photothermog.**)

IT 61-73-4 2970-29-8 3557-60-6 4384-39-8 6661-99-0 11121-48-5

16243-87-1 16423-68-0 19149-04-3 38577-09-2 53217-64-4

53971-82-7 59640-81-2 59640-83-4 59640-85-6 59640-89-0

59640-91-4 59640-93-6 59640-95-8 59640-97-0 68888-29-9

68888-35-7 68945-77-7 69851-54-3 69851-56-5 69853-30-1

RL: USES (Uses)

(photosensitive and image-recording compns. containing cobalt(III) complex, aromatic quinone, naphthol derivative and, for **photothermog.**)

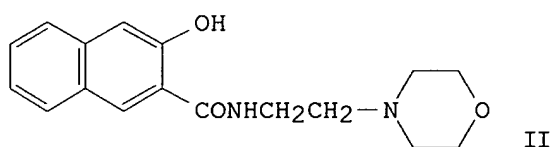
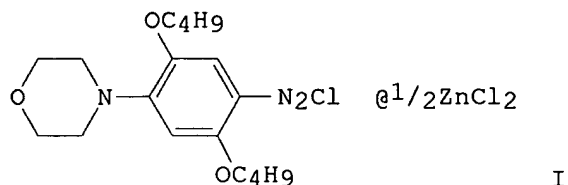
IT 106-51-4, uses and miscellaneous 130-15-4 53626-49-6

RL: USES (Uses)

(photosensitive and image-recording compns. containing cobalt(III) complex, naphthol derivs. and, for **photothermog.**)

L93 ANSWER 17 OF 18 HCA COPYRIGHT 2004 ACS on STN
 90:64446 Light- and heat-sensitive copying materials. Saito, Tadashi;
 Yamamuro, Tetsu; Sakai, Kiyoshi; Ohta, Masafumi (Ricoh Co., Ltd., Japan).
 Jpn. Kokai Tokkyo Koho JP 53093820 19780817 Showa, 14 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1977-7822 19770128.

GI



AB A permeable support is impregnated with a composition containing a Co(III) complex salt, which forms a basic substance upon reduction, an aromatic quinone derivative, and/or a polydentate (≥ 2) chelating agent having conjugated π bonding system, then the one side of the support is coated with a photosensitive composition containing a naphthol or phenol derivative type reducing agent which loses its reducing power when irradiated with active radiation, and the other side of the support is coated with an **imaging** composition containing a substance which decolors upon reaction with the basic substance to give a heat-sensitive and photosensitive **imaging** material. Thus, a paper support was impregnated with a solution composed of hexaamminecobalt trifluoroacetate 3, cellulose acetate butyrate 10, p-benzoquinone 1.5 g, and Me₂CO 50 mL and dried. Then one side of the support was coated with a solution consisting of 4-methoxy-1-naphthol 0.05, erythrosine 0.01, Et cellulose 2.5 g, and MeOH 25 mL, whereas the other side of the support was coated with a solution consisting of I 1.8, II 2.5, tartaric acid 3.0 g, and H₂O 100 mL to give a photosensitive and heat-sensitive copying material. An opaque original was then contacted with the photosensitive layer, imagewise exposed by using a reflection method (≥ 480 nm light), developed at 100-20°, and the photosensitive layer was uniformly exposed to give a copy with dark images (optical d. was 1.35).

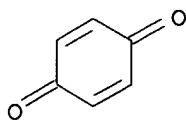
IT 106-51-4, properties

RL: PRP (Properties)

(**photothermog.** film supports impregnated with cobalt(III) complex and, coated with photosensitive and color-bleaching layers)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



- IC G03C001-72
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST cobalt complex quinone **photothermog**
 IT **Photothermography**
 (cobalt(III) complex-aromatic quinone derivative mixture impregnated porous supports coated with photosensitive and color-bleaching layers for)
 IT 10155-35-8 14726-58-0 19795-11-0 69092-41-7 69092-42-8
 RL: USES (Uses)
 (color-bleaching compns. containing, for **photothermog.** films)
 IT 84-85-5 2123-43-5 10240-08-1
 RL: USES (Uses)
 (photosensitive compns. containing dye and, for **photothermog.** films)
 IT 61-73-4 108-73-6 11121-48-5 16423-68-0 68945-77-7
 RL: USES (Uses)
 (photosensitive compns. containing naphthol derivative and, for **photothermog.** films)
 IT 13820-83-2 14023-85-9 59561-55-6
 RL: USES (Uses)
 (**photothermog.** film supports impregnated with aromatic quinone derivative and, coated with photosensitive and color-bleaching layers)
 IT 130-15-4 131-91-9 553-97-9 1141-59-9 68945-75-5
 RL: USES (Uses)
 (**photothermog.** film supports impregnated with cobalt(III) complex and, coated with photosensitive and color-bleaching layers)
 IT **106-51-4**, properties
 RL: PRP (Properties)
 (**photothermog.** film supports impregnated with cobalt(III) complex and, coated with photosensitive and color-bleaching layers)
- L93 ANSWER 18 OF 18 HCA COPYRIGHT 2004 ACS on STN
 89:120742 Electrically activated recording material and process. Reithel, Raymond F. (UK). Research Disclosure, 167, 29-31 (No. 16724) (English) 1978. RD 167024 19780310. CODEN: RSDSBB. ISSN: 0374-4353. PRIORITY: RD 1978-167024 19780310.
- AB An elec. charge-sensitive **imaging** element having increased speed is comprised of a support, an electroconducting layer, a photoconductive layer, an elec. activated **imaging** layer comprised of an organic heavy metal salt oxidizing agent, a reducing agent, and an electron acceptor, and a 2nd electroconducting layer. The **imaging** element has a resistivity $\geq 10^{10}$ Ω -cm. The electron acceptor is selected from anthraquinone, phthalaldehyde, tetrachlorophthalonitrile, tetrachlorophthalic anhydride, p-chloranil, $\alpha,\alpha,\alpha,\alpha$ -tetrafluoro- α,α' -hexachloro-p-xylene, and related compds. Thus, an **imaging** composition prepared from Ag behenate, behenic acid, phthalazinone, 2,2'-methylenebis(6-tert-butyl-4-methylphenol), anthraquinone, and poly(vinyl butyral) was coated on a baryta-coated paper support. A photoconductive film was prepared by depositing PbO on a Ni-coated transparent poly(ethylene terephthalate) film support. An elec. charge-sensitive **imaging** element was obtained by arranging an electroconducting metal platen, the **imaging** composition-coated paper, and the photoconductive film in sequence. The photoconductive layer was

imagewise exposed to a W light source while an elec. field was established across the **imaging** and photoconductive layers. The **imaging** paper was then separated from the photoconductive film and heated at 85° to produce a visible image with twice the speed of an anthraquinone-free control.

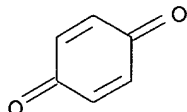
IT 106-51-4, uses and miscellaneous

RL: USES (Uses)

(image-forming compns. containing silver behenate and, for elec. charge-sensitive **imaging** elements)

RN 106-51-4 HCA

CN 2,5-Cyclohexadiene-1,4-dione (9CI) (CA INDEX NAME)



CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT **Photothermography**

(electro-, using photoconductive layer in conjunction with organic heavy metal salt-containing image-forming layer)

IT 68-36-0 84-65-1 106-51-4, uses and miscellaneous 118-75-2,
uses and miscellaneous 643-79-8 1780-40-1 1953-99-7 2381-23-9
2958-87-4 4025-69-8 59561-55-6 67453-22-9

RL: USES (Uses)

(image-forming compns. containing silver behenate and, for elec. charge-sensitive **imaging** elements)

IT 119-39-1 119-47-1 2489-05-6

RL: USES (Uses)

(image-forming compns. containing, for elec. charge-sensitive **imaging** elements)

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